

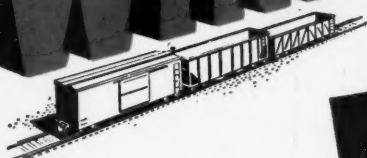
# RAILWAY AGE

MARCH 5, 1949



**MORE THAN  
122,000  
CARS  
ARE EQUIPPED  
WITH...**

**WINE**



**Cast Steel  
HOPPER  
FRAMES**

# "BUFFALO" UNIT BRAKE BEAM



Rolled section before  
forging and upsetting  
into the solid truss.

**NEVER UNDERESTIMATE THE WORD**

## "BUFFALO"

**WHEN YOU THINK OF  
UNIT BRAKE BEAMS**

- "Buffalo" is the ORIGINAL Unit Brake Beam
- "Buffalo" is the TIME-TESTED Unit Brake Beam
- "Buffalo" is the SERVICE-TESTED Unit Brake Beam

Since 1937 more than 310,000 of these sturdy, solid-truss Unit-type "Buffalo" Brake Beams have been bought by 86 railroads and private car lines.

*Less than 1/10 of 1% of these beams were specially bought for stand-by stock or repairs.*

NO OTHER BRAKE BEAM CAN APPROACH THE RECORD! "Buffalo" Units definitely STAND UP.

**BUFFALO BRAKE BEAM CO**

140 Cedar Street

New York

# RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office.

## IN THIS ISSUE

### EDITORIALS:

Who Lifts the Check for "Operation Snowfight"?	37
An Indictment of Steam Locomotive Maintenance Practice	38
The Show Must Be a Success	39

### GENERAL ARTICLES:

Electro-Motive Opens New Parts Center	40
The Renaissance of Electric Motive Power, by A. H. Candeo	42
Large Construction and Maintenance Programs Planned for 1949	48
N. R. A. A. All Set for Imposing Exhibit	52
Railroads Press for Higher Freight Rates	56
Arthur E. Stoddard New Union Pacific Chief	59

COMMUNICATION	47
GENERAL NEWS	60
PUBLICATIONS	84

Published each Saturday by the Simmons-Boardman Publishing Corporation, Orange, Conn., with Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 105 W. Adams Street, Chicago 3, Ill.

Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Seattle 1: 1038 Henry Building—San Francisco 4: 300 Montgomery Street, Rooms 805-806—Los Angeles 14: 530 West 6th Street—Dallas 4: 2909 Maple Avenue.

Samuel O. Dunn, Chairman. James G. Lyne, President. S. Wayne Hickey, C. Miles Burpee, H. H. Melville, C. W. Merriken, F. C. Koch, R. E. Thayer, H. E. McCandless, Vice-Presidents. John R. Thompson, Western District Sales Manager. J. S. Crane, Vice-President and Secretary. J. T. DeMott, Treasurer. Ralph E. Westerman, Arthur J. McGinnis, Assistant Treasurers.

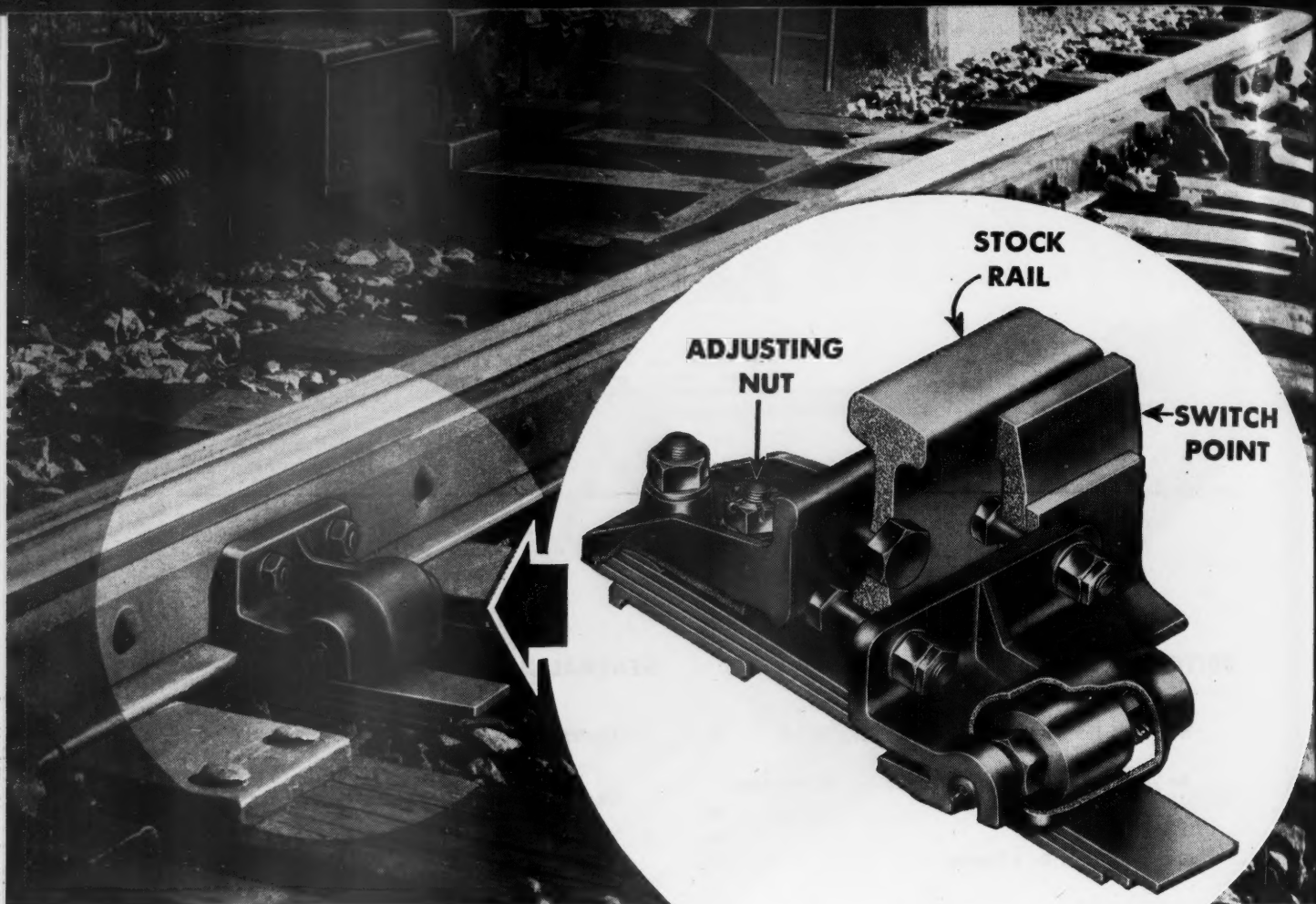
C. Miles Burpee, Business Manager. Subscriptions, including 52 regular

weekly issues, and special daily editions published from time to time in New York or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, \$6.00; 2 years, \$10.00; other countries not including daily editions in Western Hemisphere 1 year \$10.00; 2 years \$16.00; other countries 1 year \$15.00; 2 years \$25.00. Single copies, 50 cents each, except special issues.

H. E. McCandless, Circulation Manager, 30 Church Street, New York 7

Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. PRINTED IN U. S. A.





## For Easier . . . Faster Operation Put Your Switch Points on **ROLLER BEARINGS!**

"Union" Roller Bearings carry approximately 80 per cent of the weight of the switch points in transit . . . reduce greatly the power required to throw a switch . . . save wear on connections and operating mechanisms . . . lessen maintenance time required for oiling and cleaning switches.

Applicable to hand-operated, mechanical, power or spring switches, they are especially valuable in effecting easier operation of heavy-railed switches having long switch points, or in over-

coming frictional interference at locations where sand and dirt collects on the switch plates.

"Union" Roller Bearings are easy to install, simple to adjust as they are independent of the switch rods and operating mechanisms, and require little attention except for occasional lubrication. For full details, call or write any "Union" district office.

# UNION SWITCH & SIGNAL COMPANY

SWISSVALE

PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO



Transportation  
Direct  
6-6-50  
(Shortage)

## WEEK AT A GLANCE

**"STARVED" RAILROADS**—are leading the country into a depression, in the opinion of Robert R. Young, chairman of the board of the Chesapeake & Ohio and of the Federation for Railway Progress. Mr. Young's views were expressed at Washington, D. C., on March 1, in a press conference at which, as reported in this week's News, he also did some pretty plain talking on subsidized competition, rate-increase delays and other subjects of general concern to everyone connected with the railroad industry.

**RENAISSANCE OF ELECTRIC POWER:** Development over the past quarter-century of self-propelled electric locomotives and rail cars has produced new concepts as to the design, arrangement, capacity, limitations and advantages of electrical propulsion apparatus for railroad motive power. These concepts were recently discussed before the American Institute of Electrical Engineers by A. H. Candee of the Westinghouse Electric Corporation; his paper on the subject is abstracted in this issue, starting on page 42. Mr. Candee uses the phrase "electric locomotive" as a generic term, to embrace any power unit propelled by electric motors, whether the power is actually generated on the locomotive itself or transmitted to the locomotive from an outside source.

**THIS WAY TO THE BIG SHOW:** Week after next, from March 15 to 17, the American Railway Engineering Association will celebrate its Golden Anniversary in Chicago. In keeping with the importance of the occasion, the National Railway Appliances Association has arranged the largest display of railroad equipment, materials and devices exhibited by it in 25 years. An article beginning on page 52 includes a complete list of the products to be shown in 236 booths by 112 manufacturers.

**BANKRUPTCY FOR THE LONG ISLAND:** After a gallant fight against the insurmountable odds of higher wages, higher prices, higher taxes, publicly-imposed grade separation costs, and inadequate commuter fares, the Long Island, on March 2, filed a bankruptcy petition in United States Court at Brooklyn, N. Y., just after the New York Public Service Commission authorized a temporary increase in the road's commutation fares. We hope the commission's action betokens the beginning of an awareness on the part of regulatory authorities—and eventually, perhaps, of the public—that no railroad, no matter how efficient or devoted its management may be, can remain solvent forever when its costs are constantly forced upward, its rates held down and its traffic diverted by political action. The story of the Long Island's plight appears in our News pages.

**CONSTRUCTION AND MAINTENANCE FORECAST:** Despite deterring influences, engineering and maintenance officers on railroads in the United States and Canada are busily engaged in heavy programs of construction, maintenance

and fixed-property improvement for 1949. An analysis and survey of such programs, starting on page 48, indicates that total expenditures for such work will approximately equal those made in 1948 and exceed those of most other recent years. About \$19 million is allocated for new work equipment.

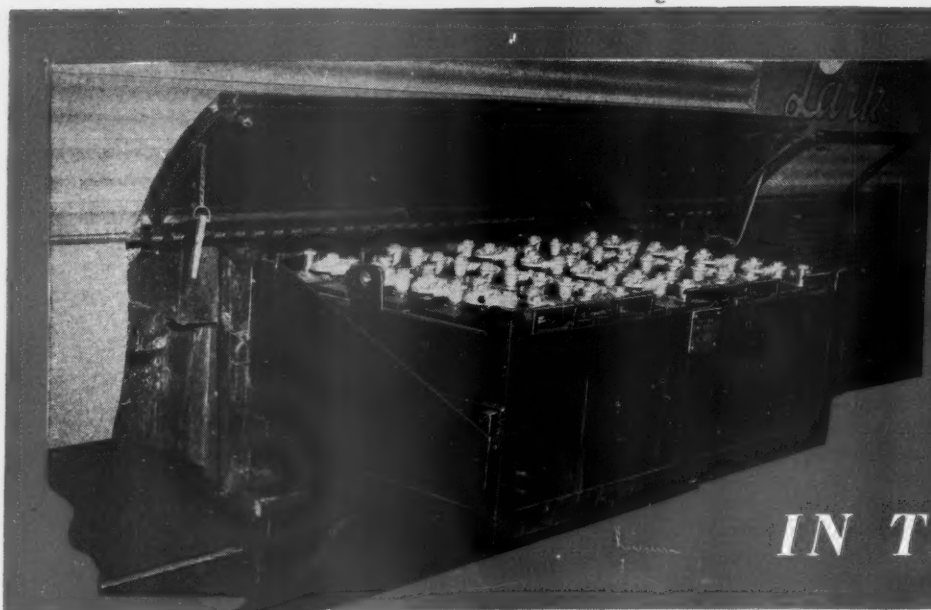
**FEATHERBEDDING "MORALLY WRONG":** The railroads' long-standing campaign against featherbedding received support from an unexpected source this week when President Truman's secretary of labor, Maurice J. Tobin, told a correspondent for the New York Sun that he considered the practice "morally wrong," and advised the railroads to "stick by their guns" in opposing it, "regardless of a strike threat." The Sun's interview with Secretary Tobin is reported in our News columns.

**WHO PAYS THE BILL?** Last week *Railway Age* published some vivid pictures of the difficulties encountered by Western railroads in keeping their lines open and their trains running during one of the worst and snowiest winters on record. This week our leading editorial points up the striking contrast presented by "Operation Snowfight" between governmental treatment of the railroads and of other agencies of transport. The railroads, as usual, paid their own snow removal tab. But the cost of clearing highways for trucks will be hidden in the higher taxes which everyone—railroads included—will pay.

**SPARE PARTS:** To help the railroads keep their Diesels running, the Electro-Motive Division of General Motors Corporation has just opened a new spare parts plant at La Grange, Ill.; the opening is described, and features of the plant illustrated, on page 40. Our Supply Trade News also reports the beginning of construction by the Caterpillar Tractor Company of a similar plant at Indianapolis, Ind.

**RATE HEARINGS OPEN:** Initial hearings at Washington, D. C., on the railroads' proposal to supplant the 5.2 per cent Ex Parte 168 interim freight-rate increase with a permanent advance of 13 per cent are reported on page 56.

**NEW PRESIDENT FOR U. P.:** Arthur E. Stoddard, vice-president of the Union Pacific since last September, became that company's twenty-first president on March 1, succeeding George F. Ashby, who retired on the same day. Mr. Stoddard's almost meteoric rise to the position of chief executive of one of the country's largest railroads is outlined on page 59. Another major railroad presidential change later this year is forecast by Ralph Budd's announcement, reported in our News pages, that he will retire on September 1 from the presidency of the Chicago, Burlington & Quincy.



bringing  
battery  
inspection

**OUT**  
IN THE OPEN

easy to  
roll out

One tug at the new EDISON-developed roll-out battery cradle and much of your former battery servicing trouble rolls away! The cradle, gliding on ball-bearing wheels along hinged extension tracks, brings the entire battery "out from under" as a unit — completely accessible for rapid and positive inspection, watering, cleaning.

Besides improved servicing, these advantages are realized:

*Better ventilation:* battery is suspended above the compartment floor.

*Cleaner compartments:* easy to remove dust and dirt during servicing.

*Quicker shopping:* entire cradle removable by crane or fork truck.

*Shorter jumpers:* reduced cable footage and maintenance, less voltage drop.

*No conflicts:* roll-out compartment also accepts conventional assemblies.

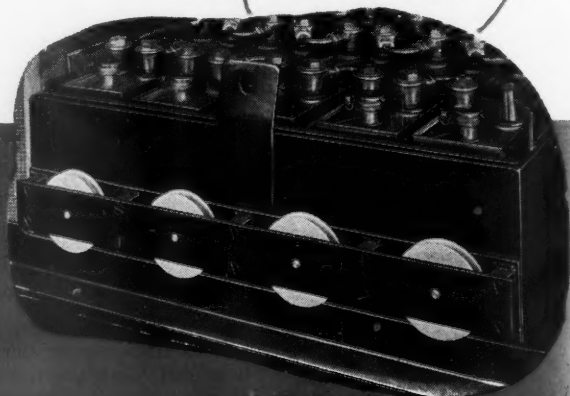
*No limits:* cradle will handle bulkiest assembly now held by customary box.

Don't overlook this new way to cut maintenance costs. Let us assist you in adapting roll-out cradles to existing or proposed compartments. Complete information and typical layouts furnished on request by any of our district offices.

the wheels  
do the work



**EDISON**  
Nickel • Iron • Alkaline  
STORAGE BATTERIES



EDISON STORAGE BATTERY DIVISION OF THOMAS A. EDISON, INCORPORATED, WEST ORANGE, N. J.

# RAILWAY AGE

EDITORS . . .  
Samuel O. Dunn and James G. Lyne

MANAGING EDITOR . . .  
C. B. Tavenner

WESTERN EDITOR . . .  
Neal D. Howard

NEWS EDITOR  
Gardner C. Hudson

WASHINGTON OFFICE . . .  
Walter J. Taft

TRANSPORTATION DEPARTMENT . . .  
William H. Schmidt, Jr.  
Robert G. Lewis

MECHANICAL DEPARTMENT . . .  
C. B. Peck  
E. L. Woodward  
H. C. Wilcox  
C. L. Combes  
G. J. Weihofen

ENGINEERING DEPARTMENT . . .  
M. H. Dick  
Walter L. Turner, Jr.  
Henry E. Michael  
Norris V. Engman

PURCHASES & STORES DEPARTMENT . . .  
John W. Milliken

EQUIPMENT & FINANCIAL NEWS . . .  
Fred C. Miles

SIGNALING AND COMMUNICATIONS  
DEPARTMENT . . .  
John H. Dunn  
Maurice Peacock

ELECTRICAL DEPARTMENT . . .  
Alfred G. Oehler

WESTERN NEWS DEPARTMENT . . .  
George R. Johnson

ASSOCIATE EDITOR . . .  
Charles Layng

LIBRARIAN . . .  
Edith C. Stone

EDITORIAL ASSISTANT . . .  
Elaine C. Farrar

## WHO LIFTS THE CHECK FOR "OPERATION SNOWFIGHT"?

Now that the states between the Missouri and the Rockies have dug themselves out from the packed snows of a three-months blizzard, the vouchers for the job are pouring in; and here, as in so many other places, there stands out the striking contrast between the way government treats the railroads and the way it treats rival methods of transportation. The railroads, that is, did their own snow-plowing, ice-blasting, and ditch-digging—with their own equipment and at their own expense—while opening up the highways for the trucks was done by government at the taxpayers' expense. The cost of the railroads' snow-fighting will have to be reflected in their rates and fares—or in deficiencies in net income. But the cost of clearing the roads for the trucks will not appear in the charges for truck transportation—instead it will be concealed in higher taxes which everybody will pay.

### **\$1,000 per Branch-Line Mile**

What the railroads' expense will total, no one yet knows exactly. Roadmasters and superintendents and their staffs are still trying to catch up on their sleep. One major railroad with a network of lines in the blizzard area estimates that, from November 18 to date, sleet and snow have cost it well over \$1 million in direct costs of clearing the line, retrieving equipment and repairing communica-

tions, *exclusive* of loss of revenues, claims for delays and damage, and added rental on freight cars blocked by drifts. This same road spent more than \$45,000 just to open up a relatively unimportant 45-mile branch, or \$1,000 a mile. It probably would have been cheaper to suspend operation, waiting for the snow to melt, but that kind of economy does not gee with the railroads' sense of public obligation. A neighboring road is unofficially reported to have spent \$3 million to \$3.5 million out-of-pocket in opening its lines in the area.

The complicated skein of overtime and mileage pay, guarantees and arbitraries which the railway unions exact from their employers—thanks to tortured interpretations of agreements by government boards—make emergency operations a field day for wage payments in excess of time actually worked. These complicated pay agreements are, of course, no reflection on railroad employees—who in such a crisis always pitch in with the utmost skill, endurance and courage of which they are capable; and the past three months have shown that they are capable of a lot. Nevertheless, the pay for such exertion comes high, and it takes a lot of customers' money to cover the wages of these \$1,000-a-month (including overtime) locomotive engineers and \$800-a-month bulldozer operators.

Losses to operators of truck fleets from delays and suspended schedules will, of course, in the long



run be a charge which patrons of such transportation will have to pay—but they will escape paying the cost of clearing the highways—which, actually, is an integral part of the cost of truck transportation, just as much as the cost of clearing the railroads is a part of the cost of railroad transportation. It just happens, without any reason or logic to explain it, that a tradition has grown up which piles *all* the costs of railroad service upon the rates which railroad patrons must pay, while it has become an accepted custom with other kinds of transportation to shift a large part of the costs to the taxpayers.

### **Public Money Clears Highways**

As a matter of fact, from present indications, none of the users of the highways (that is, none of the payers of levies on gasoline and license tags) will be called upon to pay the extraordinary costs of the recent blizzard—because, this time, it looks as if *general* state and federal appropriations will account for most of the extraordinary expense. Home-owners and farmers and other payers of taxes on property and income will thus be the principal contributors to defraying an expense which is an integral part of the cost of conveying goods by highway.

The Federal Works Administration alone has expended \$1,050,000 for blizzard relief, which it has allocated to the states. No specific break-down is available, but it is likely that a large part of the money has gone for clearing highways. Entirely in addition to this is the tremendous—but as yet unknown—sum which the Army has expended for its so-called "Operation Snowbound," a sizeable portion of which had to do with the clearance of highways and rescue of vehicles.

From its beginning at the end of January through February 18, "Operation Snowbound" cleared more than 62,000 miles of highway in Nebraska, Wyoming and South Dakota. Still further sums were expended by the Department of the Interior on its own account. Finally, the states themselves, from general revenues, have paid out enormous amounts for "relief," a sizeable portion of which went for road clearance. Nebraska, for example, authorized at least \$500,000 for this purpose, and Wyoming, \$1 million.

All agencies which fought this disaster did the job together, without counting the cost or reckoning who was going to pay for it—which is just the way it should have been done. One or two railroads were able to use a few Army road machines for line clearance, though they were only a small fraction of the total railway effort. The railroads, in turn, aided "Operation Snowbound" by running special trains to move government and contractors' machinery to points of attack on highway blockades. One railroad, we hear, saved the Army "ter-

rific expense and delay" by handling cars of emergency hay direct to ranch areas—not just to stations—and railroad maintenance-of-way employees distributed it, some 7,000 tons having been so handled in one district alone, in lieu of the Army's "haylift" by air. Meats and other foods were "peddled" from way cars on numerous railroad lines. Railroad services rendered to relieve human or animal suffering were, for the most part, "on the house."

This paper in no way seeks to becloud the credit due any of the agencies which bore the brunt of this blizzard and aided the people and their livestock in stricken areas. The physical job was shared equitably and performed well by all concerned. But now that the bills must be paid it would not be amiss to call attention to the fact that, as far as transportation agencies go, the railroads are bearing a great deal more than their proportionate share of the cost. Purchasers of transportation should remember this when they are inclined to complain over the rates the railroads are compelled to ask for their service. Railroad service would be much "cheaper" than it now is, compared to other ways of shipping goods, if a big part of the cost of railroad service were concealed in people's tax bills—as happens with a large part of the costs of other agencies of transportation.

---

## **AN INDICTMENT OF STEAM LOCOMOTIVE MAINTENANCE PRACTICE**

The generally inferior quality of steam-locomotive maintenance is perhaps nowhere more clearly revealed than by analysis of the Bureau of Locomotive Inspection annual reports. The latest report, the one for the fiscal year ending June 30, 1948, is no exception. The report covered four times as many steam as non-steam locomotive units, with four and one-half times as many inspections given to the steam power. There were 22 times as many defects found on the steam locomotives as on other power, and more than 31 times as many had defects sufficiently serious to warrant their withdrawal from service.

The report showed, nevertheless, that the number of accidents caused by failure of parts or appurtenances was only a little over eight times as great for steam as for other-than-steam power, indicating that the comparatively poor record on paper of the steam locomotive is due largely to inferior maintenance practice, and not to any inherent weakness of the steam locomotive as such. If it were due to basic weakness, would not the accident ratio be from 22 to 31 times as high for the steam locomotive as the non-steam locomotive?

As in last year's report, the accident ratio for steam compared to non-steam power is far more nearly in line with the ratio between the total inventories of the two categories of locomotives. Even the amount that it is out of line can be accounted for largely by the greater number of defects permitted to continue in service on steam locomotives. It might also be pointed out that the four-to-one ratio of inventories applied to *units*, and that it takes two to three units to make up the average non-steam road locomotive. Thus, if complete locomotives are considered, the numerical preponderance of steam would be about eight to one, or roughly the same as the accident ratio.

Even in comparisons of equipment common to both categories of power, defects are found to be far more numerous on the steam locomotive. Although brake equipment, draft gear and air compressors are not identical on the two classes of locomotives, the defect ratio of those three items as applied to steam locomotives should not vary greatly from the defect ratio when they are applied to locomotives other than steam, if somewhere near equal attention were paid to all forms of motive power. Yet these items developed from 13 to 31 times as many defects on steam power.

Thus, once again the figures in the Bureau of Locomotive Inspection report reveal the lack of proper care to steam power. This disclosure also suggests the desirability of bettering steam-power maintenance standards, which would in all probability both reduce operating expenses and improve performance, particularly if maintenance and servicing facilities for steam power were brought up to date and completely modernized.

---

## THE SHOW MUST BE A SUCCESS

On March 14-17, in Chicago, there will be on view one of the most notable exhibits of work equipment, power tools, appliances and materials ever assembled for inspection by railway men responsible for the construction and maintenance of track and structures. Any engineering and main-

tenance officer who misses this display unnecessarily will be depriving himself and his railroad of information of practical economic value. And managements which neglect to encourage their engineering and maintenance officers to attend will be denying their properties of tools and "know-how" which could be applied to advantage. Top management representatives might find a great deal of benefit in attendance themselves, to bring themselves up-to-date regarding the best means available for increasing efficiency and reducing costs in construction and maintenance.

The exhibition, as is pointed out in the feature pages of this issue, is being presented by the National Railway Appliances Association in connection with the Golden Anniversary Convention of the American Railway Engineering Association—and promises to surpass any previous exhibit for many years. Furthermore, a check by *Railway Age* of the plans of the 112 exhibitors shows that more than 450 different types and makes of materials, machines and devices will be on display, attended by approximately 1,000 railway supply company executives, engineers, field service men and sales representatives, ready to lend every aid to their railway guests.

Centrally located geographically, spread over four days when a maximum number of railway engineering and maintenance officers will normally be in Chicago attending the convention, comprehensive in scope and educational in character—these are a few of the factors which should attract a record-breaking attendance. Still another consideration is the fact that no similar exhibit will again be presented until September, 1950. In other words, there will be an interval of 18 months—nearly two working seasons—before railway men can again avail themselves of such a comprehensive display of things they need to know about.

Such exhibits represent the expenditure of a great deal of effort and money—an outlay which is justified only if all those who could profit from the display actually avail themselves of the opportunity.

The manufacturers have done their part by providing the exhibit, and the railroads will do theirs by maximizing their attendance—which will benefit the guests no less than their hosts.

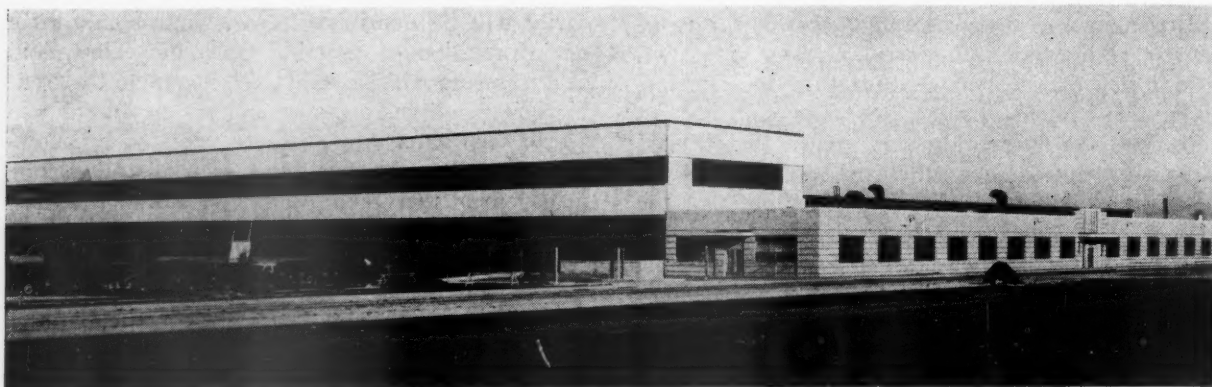
---

## "A DISGRACEFUL AND EXTRAVAGANT WASTE"

Specifically, we are overloading our highways in their traffic volume capacity and in their structural capacity. There is more than ample proof. The overloading of safe capacity by numbers and by driver misuse is reflected in the accident record. The overloading of safe structural capacity is reflected in the skyrocketing maintenance and reconstruction costs. The lessons in the first pages of the

highway-use primers have not been learned, and the results are so costly both to individuals and to the public, that they total a disgraceful and extravagant waste in the nation's true economy.

—From an address by Thomas H. MacDonald, commissioner of public roads, before a recent road builders' conference at Washington, D. C.



The new parts center at LaGrange provides 155,000 sq. ft. of floor space for parts storage and offices

## ELECTRO-MOTIVE OPENS NEW PARTS CENTER

**A**pproximately 500 railroad men and members of the railroad supply industry were present at LaGrange, Ill., February 24 for the official opening of the new Diesel-electric locomotive parts plant just constructed by the Electro-Motive Division of General Motors Corporation.

The new parts building with its 155,000 square feet of floor space is at present housing more than \$3 million worth of spare parts for the types of Diesels now being built, according to R. L. Terrell, general manager of the parts division. This addition to the spare parts already carried at other parts centers in Chicago, Los Angeles, Cal., and Emeryville, Minneapolis, Minn., St. Louis, Mo., Halethorpe, Md., and Jacksonville, Fla., raises Electro-Motive's total inventory of spare parts to more than \$14 million.

Included in the day's program for the visitors were conducted tours of the plant where the Diesels are built, inspection of the parts center itself, a luncheon in the parts building, a pageant depicting the why's of buying Electro-Motive spare parts and the service

the spare parts division renders to the railroads, and a supper and cocktail party at Chicago's Stevens Hotel.

Mr. Terrell, as toastmaster at the luncheon, introduced C. R. Osborn, vice-president of General Motors and general manager of Electro-Motive, who was the principal speaker. Mr. Osborn told his audience that this expansion of Electro-Motive's parts set-up was based on the company's idea of service to the railroad industry, for, he said, it was the belief of General Motors that it had an obligation to the railroads to keep E.-M. Diesels running, in order to protect the railroads' investment in them. The exact amount of expansion had been determined through an exhaustive survey of the anticipated parts needs of the railroads up to and including 1954, Mr. Osborn continued. At present, he said, Electro-Motive has a total "of more than \$25 million invested to insure that you will get the parts when you need them. By the end of this year this amount will be increased to almost \$39 million. . . . These investments will indicate to you that we are living up to the heritage established by



A group of Electro-Motive officials at the opening of the new parts center. Left to right: N. C. Dezendorf, plant manager at LaGrange; B. A. Dollens, assistant general manager, Electro-Motive Division; C. R. Osborn, vice-president, General Motors and general manager, Electro-Motive Division; R. L. Terrell, general parts manager; R. W. Sherk, parts merchandising manager



Builder and buyers get together. Left to right: R. E. Godley, assistant manager of stores, Illinois Central; W. W. Kelly, general purchasing agent, Santa Fe; Mr. Osborn; W. S. Morehead, manager of stores, I. C.; Lee Robinson, superintendent of Diesel power and shop machinery (retired), I. C.



A group of railroad men on their tour of the parts center. Left to right: E. G. Roberts, manager of stores, Rock Island; W. M. Robertson, general store keeper, Chicago & Eastern Illinois; G. A. Goerner, general store keeper, Burlington; W. W. Kelly of the Santa Fe, with hour glass; and F. J. Steinberger, assistant general purchasing agent, Santa Fe



the founders of this business, that the railroads' investment in our product shall always be fully protected."

Taking cognizance of the views of many railroad men that parts prices are too high, Mr. Osborn told the group that one of the main reasons for the prices was that his company took many losses in scrapping parts after railroads discontinue use of certain types of equipment. As long as there is one piece of equipment of any type still in use parts must be held as protection, he continued. When the loss from scrap-

ping occurs, that loss must be spread over the parts for the newer types of equipment to avert unbearably high parts prices for the old equipment. Also, he said, E. M. D.'s guarantee cost money, to the extent that parts are rejected because of defects. Mr. Osborn then concluded by voicing the hope that railroad men will feel free to offer suggestions that would help them and E.M.D. to realize the common objective of getting the most out of the railroads' investment in G. M. Diesels.

Mr. Terrell with M. Anderson, Electro-Motive's parts distribution manager (left) and R. M. Dilworth, assistant in engineering to vice-president



# THE RENAISSANCE OF ELECTRIC MOTIVE POWER

*The Diesel, the steam-electric and the gas-turbine locomotives are electric locomotives which can run out from under the overhead wire*

By A. H. CANDEE  
Westinghouse Electric Corporation  
East Pittsburgh, Pa.

The design characteristics of the electrical propulsion equipment of electric locomotives were thought to be well established by the development and use throughout the last half century of the trolley-electric or third-rail-electric locomotives which receive power from an external source. However, the widespread application of self-propelled electric locomotives and rail cars over the past 23 years and particularly the increased use of Diesel-electric locomotives (which have, within the past 12 years, threatened the existence of self-propelled steam locomotives) have developed new concepts as to the design, arrangement,

This is an abstract of a paper presented at the Winter General meeting of the American Institute of Electrical Engineers in New York, January 31-February 4.

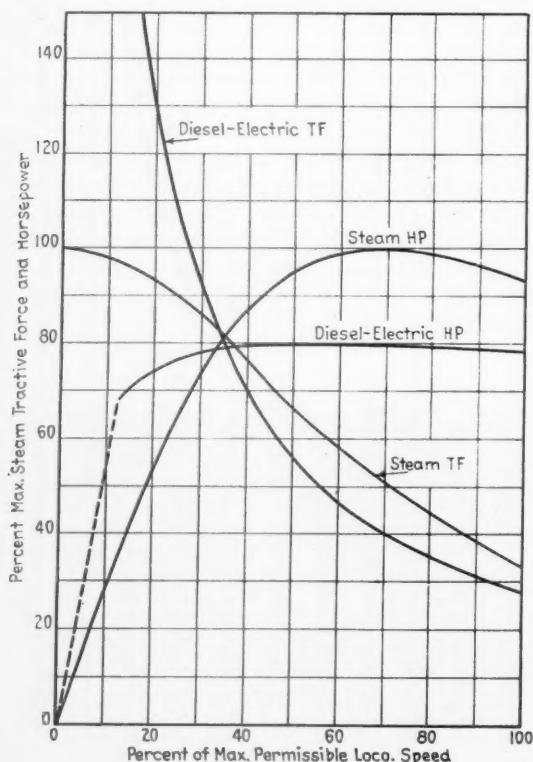


Fig. 1—Comparison of locomotive characteristics: Reciprocating steam, 4,250 hp. at driver rims, with 4,000 hp. Diesel-electric, 3,350 hp. at driver rims

capacity, limitations, and advantages of electrical propulsion apparatus for railroad motive power.

Any locomotive whose propulsion is effected by electric motors mounted on it is an electric locomotive, whether the propulsion power is generated elsewhere and transmitted to the vehicle, or is generated on the locomotive itself. This term, then, is generic and embraces the trolley- or third-rail-electric, the gasoline-electric, the Diesel-electric, the steam-turbine-electric, the gas-turbine-electric, and the storage-battery-electric locomotive.

During the early stages of development, several builders of Diesel-electric locomotives purposely deleted the term "electric," claiming that the electrical equipment was merely a transmission system and of secondary importance to the Diesel engine, being a convenient but not entirely necessary accessory. Subsequent experience, however, has shown that many of the desirable operating characteristics of this type of motive power are directly attributable to the electrical propulsion system, and that these same features are inherent in the steam-turbine-electric locomotive, the gas-turbine-electric locomotive, or any other self-propelled vehicle having electric drive. As a matter of fact, Diesel-engine-driven motive power would be highly impractical for general railroad use if it were not for the electrical transmission and propulsion equipment, since there is no other torque converting means with the wide range of application of the electric drive.

## Tractive Force Improved by Electric Drive

Many railroad men have been astonished by the ability of a relatively low-powered Diesel-electric locomotive to outperform a high-powered (peak) reciprocating steam locomotive. The explanation may be found, in part, to be due to the tractive-force characteristics of the electrical system of power transmission and propulsion as used with the Diesel-electric motive power, and which are available for any type of self-propelled motive power if electric drive is used.

In any properly designed electric drive, three characteristics are outstanding: high tractive force for starting a train; high available power at low train speeds; and the development of smooth, non-pulsating tractive force.

These factors, as compared to mechanical drives, permit easier and more positive starting of heavy trains, saving in time because of better acceleration, improved speeds on heavy grades, and fewer delays caused by wheels slipping.

The complication involved in driving the wheels of a self-propelled locomotive by mechanical means from a prime mover normally limits the number of wheels (or axles) that may be driven. Very few modern steam locomotives have more than four pairs of wheels (four axles) driven by a single prime mover, because such axles must be contained by a rigid frame and more axles makes the rigid wheelbase too long for sharp track curvatures. To get high starting tractive force, then, the weight on this small number of driving axles must be high (if normal values of adhesion are considered), which is often impractical. This limitation is not present with electric drives, because traction motors may be applied to as many driving axles as may be found expedient. From this, it is clear that an electrically propelled locomotive may have vastly improved starting characteristics over any type of mechanical drive and yet stay within reasonable weights per axle adhesive factors.

### Power-Speed Relation

The power developed by a prime mover is a function of its speed. In any mechanical drive system, the speed of the prime mover and of the vehicle are directly related, so that full power is developed only at that vehicle speed corresponding to the full prime-mover speed. With a fixed relation between them, it is obvious that over the lower ranges of vehicle speed, only partial power can be obtained. In this respect, a self-propelled vehicle with an electric drive has a definite advantage. Since there is no mechanical connection between the prime mover and the drive wheels, the prime mover may be operated at its full speed and power at any locomotive speed. During acceleration of a train or when negotiating severe grades, this feature is of considerable value in improving scheduled train speeds. Fig. 1 illustrates the comparative speed-tractive-force-horsepower characteristics of a conventional steam locomotive and those of a self-propelled electric locomotive.

One characteristic of an electric traction motor is that its torque (tractive force) is of a continuous nature, without periodic variations or pulsation. In contrast the tractive force of a reciprocating steam locomotive, especially at low speeds, is extremely variable (Fig. 2). With such a locomotive designed for an average tractive force corresponding to a 25 per cent adhesive factor, the peak tractive force which occurs once each wheel revolution corresponds to an adhesive factor in excess of 30 per cent when starting a train. Since it is this peak force which determines the slipping point of the wheels, it follows that if a reciprocating steam locomotive does not slip at an average of 25 per cent adhesion (peak above 30 per cent), a locomotive with an electric drive will not slip at a tractive force corresponding to 30 per cent adhesion, and because of the continuous character of the force, this value may be maintained. By virtue of this, heavier trains may be started and handled much more easily than with a mechanical drive.

The foregoing discussion has been based upon di-

rect or geared drive by the traction motors. It should be recognized that when a traction motor or a prime mover drives wheels through a set of side rods, there may be an oscillation in the distribution of tractive force between the various pairs of wheels because of the reversal of side rod forces and clearances at the pins. These unequal tractive force values for various wheels, then, may reduce the high effective adhesive values which are a normal characteristic of a direct or geared type of electric drive. It is considered inexpedient to apply electric drive through side rods

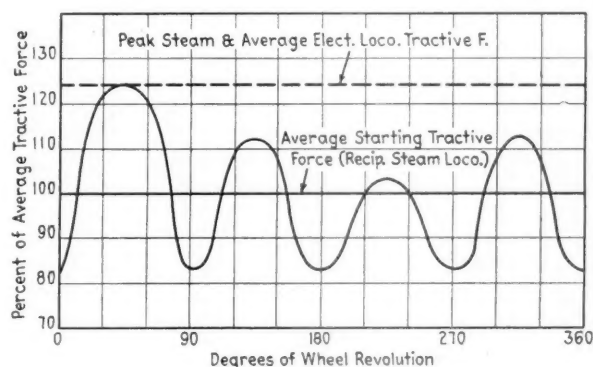


Fig. 2—Tractive force variation per wheel revolution of a reciprocating steam locomotive. An electric locomotive can maintain 24 per cent higher tractive force than steam without exceeding steam-locomotive adhesive limits

if it can be avoided and it is preferable that direct gear drive be used wherever possible.

Most railroad motive power men base their estimate of the worth of a locomotive on its tractive force characteristics rather than on its power. This is because, with a reasonable power output obtainable, high tractive forces for train starting and acceleration are of more importance than high power which can be developed only when operating at high train speed. This is one reason why the Diesel-electric locomotive, with its electric drive, has found favor among the operators of this type of power.

### Independence of Prime Mover

Any prime mover applied to a locomotive, and transmitting its power to the driving wheels through a mechanical drive system, is subject to severe stresses and mechanical shocks and is definitely limited in its application. The engines of a reciprocating steam locomotive have to be especially rugged because of this, but the simplicity of the connecting-rod and side-rod drive makes it desirable to accept this handicap. However, the connecting-rod and side-rod drive is limited in its application, since all drive wheels must be in a rigid frame for side-rod connection. As stated previously, this limits the number of axles which may be driven by a single pair of cylinders.

The application of an internal combustion engine with mechanical drive for locomotive propulsion is



somewhat complicated because the engine must be kept running at all times even though the locomotive is stopped. This necessitates a clutch for disengaging the engine crankshaft from the drive mechanism. Also, since this type of engine is a relatively constant-torque machine, provision must be made for multiplication of the engine torque in inverse proportion to the locomotive speed. When such complication is added to that of driving a multiple number of wheels (or axles), the mechanical difficulties and the high maintenance expense make this type of drive impractical except for small locomotives and light duty. Furthermore, harmful road shocks are transmitted mechanically from the wheels to the engine. During accelerations with the engine at low speed, it is necessary to employ full engine torque, which is contrary to accepted practice for long service life of any internal combustion engine.

The use of an electrical system of power transmission has contributed greatly to the success of the internal combustion engine (particularly the Diesel engine) as a prime mover for locomotive and rail cars. Since the engine drives a generator for the conversion of its power into electric energy and is, therefore, independent of any mechanical relation to the driving wheels, this engine with its generator may be mounted in the most suitable location for accessibility and weight distribution. Placing the power plant in a position where it may be readily inspected and repaired is conducive to its ready maintenance as an effective source of power with a minimum risk of failure in service.

It is the present practice to design the automatic loading characteristics of an electrical transmission system so that full torque will not be demanded of the prime mover until it approaches its full-load speed. This materially reduces engine stresses as compared with mechanical drives, and promotes long life as well as a reduction in repair expense. This electrical feature is often considered to be one of the contributing factors to the success of the Diesel-powered electric locomotive.

### **The Hydraulic Drive**

The transmission of power from the prime mover of a self-propelled vehicle to its driving wheels has been confined almost entirely to the mechanical or the electrical system. Furthermore, the type of mechanical system which predominates is the side rod drive of the conventional reciprocating steam locomotive, and the electrical system has experienced its greatest application in connection with the Diesel engine. This raises the question as to why the hydraulic or fluid drive transmissions have not been more widely used.

One of the most desirable characteristics of a power transmission system is the ability to drive any number of axles (without mechanical complication) with whatever wheel arrangement may be found most desirable for the support of the locomotive structure and for good tracking characteristics. This requirement favors the use of individual drive of each axle. While the hydraulic drive—a fluid pump and one or more fluid motors—fulfills this basic requirement, the con-

duction of a large volume of fluid under extremely high pressure from the power pump to a multiple number of hydraulic motors mounted on and driving these individual axles becomes a major problem—in fact, has been found entirely impractical. On the other hand, the fluid torque converter is not adaptable for individual axle drive and has most of the disadvantages and complications of any mechanical system of power transmission.

### **Future of Electrical Transmission**

Railroad motive power is undergoing a metamorphosis. For nearly a hundred years the accepted type of power unit was the reciprocating steam locomotive. Then, the gasoline-engined rail car entered the field, inevitably followed by the Diesel-electric rail car and locomotive, which are rapidly replacing reciprocating steam power. Other locomotives have been built, or are under consideration, including steam-turbine units operating at conventional locomotive boiler pressures and with mechanical or electric drive, a steam-turbine-electric locomotive obtaining its steam from a high pressure boiler, and the gas-turbine-electric locomotive. Because the advantages of electric drive are now recognized, it is predicted that few locomotives of the future, other than the reciprocating steam type, will be built with any drive other than electric.

### **Electrical Transmission Equipment**

The primary requirement of an electrical power transmission system as used for railroad locomotives and rail cars is the ability to convert the power available for propulsion into any desired speed-tractive-force combination necessary for the locomotion of the vehicle. Since horsepower is the product of the pounds of tractive force and speed (m.p.h.) divided by 375, it follows that in any type of locomotive with a fixed maximum prime-mover horsepower capacity, the speed of a locomotive changes in inverse relation to the tractive force requirement. Thus, the negotiation of a severe grade is always at relatively low speed, and high speeds are attained only when the resistance to train movement is reduced. Since the varying character of a railroad profile requires continual changes in the speed-tractive-force values, it is obvious that any system of electric drive should permit an infinite variation in such relationship through the locomotive operating range, from the maximum tractive force required for train starting and acceleration to the maximum permissible locomotive speed.

### **Number of Traction Motors**

High axle loading has been the customary practice in reciprocating steam locomotive design, where the limited number of driving axles makes it difficult to obtain high starting tractive force. The use of electric drive, however, has allowed still higher tractive forces to be obtained with low axle loadings, and as a result, many motive power men are giving careful consideration to the idea of reducing the load on

**Table I—Rail-Head Shatter Cracks Propagated into Complete Rail Fissures**

Worn wheel * diameter, in.	Axle load, lb.	Approx. speed limit, m.p.h.
36	50,000	90
36	55,000	72
36	60,000	56
36	65,000	42
38	50,000	105
38	55,000	85
38	60,000	67
38	65,000	52
40	50,000	120
40	55,000	98
40	60,000	78
40	65,000	62

\* These wheel diameters are within the sizes used for self-propelled electric locomotives.

individual pairs of wheels with any type of power.

While some railroads do not hesitate to apply axle loads up to 70,000 lbs., there are many, many others that have lighter rails and poorer roadbed and must, perforce, limit their loadings to between 50,000 and 55,000 lb. per axle, or even lower. Furthermore, investigations have shown that there is a tendency for rail-head shatter cracks to be propagated into complete rail fractures above the speeds shown in Table I for different axle loadings.

This further illustrates the desirability of low axle loadings in the interest of reduced rail failures. It is, of course, not always possible to keep to these low limits, but the figures serve as a goal toward which to strive.

It is apparent that low weight per driving axle may necessitate a large number of driven axles if high starting tractive force values are to be utilized at reasonable coefficients of adhesion between the wheels and the rail. It has been found that the practical starting tractive force values for the various types of railroad service are:

Switching service: 50 to 65 lb. starting force per prime-mover horsepower

Passenger service: 20 to 25 lb. starting force per prime-mover horsepower

Freight service: 35 to 45 lb. starting force per prime-mover horsepower

The preferred number of driven axles, then may be calculated from these factors:

$$\text{Number of Axles} = \frac{\text{Starting lb. per hp.} \times \text{prime mover hp.}}{\text{Allowable lb. per axle} \times \text{selected adhesive factor at start}}$$

Thus, for freight service, eight motored axles are desirable for a 3,000-hp. Diesel-electric locomotive with a 55,000-lb. axle loading and an allowable adhesive factor of 25 per cent, as follows:

$$\text{Number of axles} = \frac{35 \times 3,000}{55,000 \times 0.25} = 7.65, \text{ say } 8.$$

Because of the electrical groupings of traction motors fed from a single generator, it is expedient at present to select the number of motors as a multiple of four or six. Diesel-electric locomotives are now available with 4, 6, 8, 12, 16 and 18 traction motors. In small sizes, one or two traction motors are sometimes sufficient.

The use of an electrical transmission system introduces a time factor into the application and use

of self-propelled motive power which is not readily understood by the operating forces of a railroad that have been used to steam power with mechanical drive. This time factor is occasioned by the electrical heating of the generators and traction motors.

## Electrical Ratings

The rating of electrical rotating apparatus is based upon the current which can be carried continuously (at a specified voltage) without exceeding the safe temperatures established for its type of construction. This continuous current value is normally converted into continuous tractive-force rating, and operation at a tractive force in excess of the rating will, if continued, cause the temperature of the electrical equipment to exceed the established safe limits. However, if this overload tractive force is applied with the electric motors and generators at reduced temperatures, time elapses before the equipment reaches its maximum allowable temperatures. It is these permissible overload ratings based upon time limits which sometimes confuse the operating man.

The time factor is not a fundamental limitation of electric motive power, but is the result of commercial expediency. It is obvious that if large enough electric motors and generators were applied to give a continuous tractive-force rating exceeding the maximum that could ever be exerted (say, equivalent to 40 per cent adhesion between the wheels and rails), then, no operating condition could ever arise which would overheat the equipment. This would require extremely large, heavy, and expensive electric machinery. In this age of modern self-propelled electric locomotives, competition makes it necessary to use smaller motors and generators than the ideal size in the interest of reduced equipment cost, and by so doing forces the limitations in tonnage hauling capacity occasioned thereby.

In reducing the capacity of electric machines from a size which will not overheat to that which is commercially practical, considerable judgment must be exercised and the results of actual operation analyzed. Unlike trolley-electric motive power, where schedules, grades, and tonnages are rather well defined, the self-propelled locomotive must be built to fit an extremely wide range of operating conditions. Experience has shown that the practical minimums for the continuous tractive-force ratings of the electrical equipment should approximate the values shown in Table II.

For greatest utility, an electric locomotive must be given as high a tonnage-hauling rating as possible within the safe temperature limits of the electric motors and generators. It is much safer to establish

**Table II—Preferred Minimum Continuous Tractive-Force Rating**

	Per cent of the weight on drivers
Switching service .....	13 to 15
High-speed passenger service .....	11 to 12
Medium-speed passenger service .....	15 to 16
Low-speed passenger service .....	17 to 18
High-speed freight service .....	14 to 15
Medium-speed freight service .....	17 to 18
Drag freight or transfers .....	20 to 22

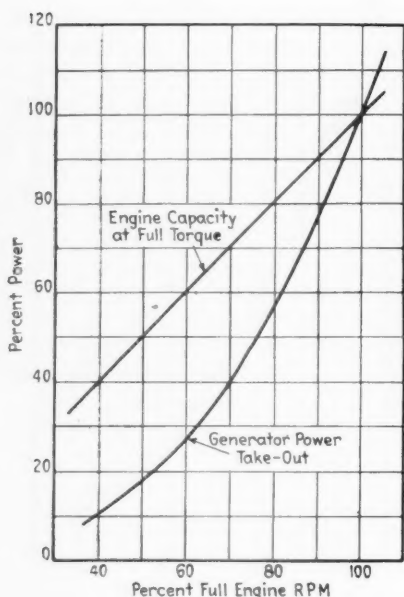


Fig. 2—Diesel engine loading at reduced engine speeds

tonnage-hauling ratings for the longer-grade zones upon the basis of the continuous tractive-force rating than on short-time values. Actual experience has shown that this results in increased operating reliability and reduced electrical repair expense.

In general, internal-combustion engines should not be loaded to full torque at reduced engine speeds. Almost all modern control systems for Diesel-electric motive power take cognizance of this, applying electrical load at very low torque at engine idling speed and gradually building up to full torque only when the engine reaches the range of its full operating speed. This is illustrated by Fig. 3.

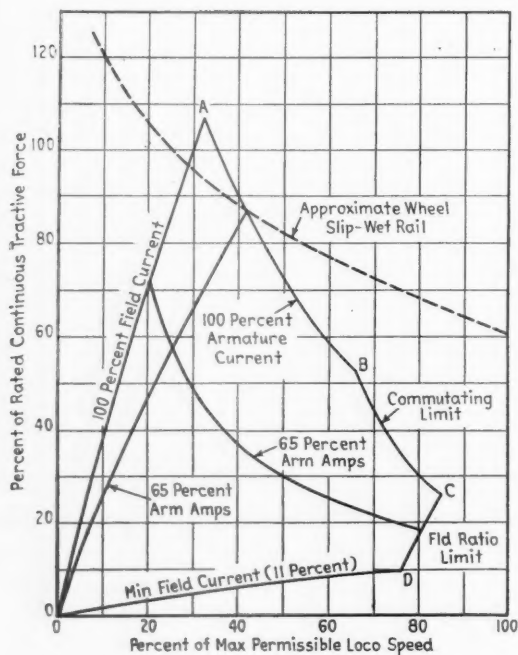


Fig. 4—Dynamic braking envelope resistance braking with a fixed value of resistance

Dynamic braking is a system of electric braking in which the traction motors of an electric motive-power unit, when used as generators, convert the kinetic energy of the unit and its train into electric energy, thereby exerting a retarding force. In self-propelled electric motive power, the armatures are usually connected to a resistor for conversion of the electric energy into heat energy for dissipation in the surrounding air.

The generator of the power plant, being variable in voltage, is an excellent source of power for excitation of the field circuits.

Fig. 4 shows a typical dynamic braking envelope of a Diesel-electric locomotive, wherein a single fixed value of dynamic braking resistance is provided. The curve from A to B is for continuously rated armature amperes, the shape being determined by the maximum safe generated voltage. From B to C, the armature amperes must be reduced progressively as the speed rises because of the commutation characteristics at high amperes and high speeds. From C to D, a greater ratio of armature amperes to field amperes causes instability and possible flashing, while the line from D to O is the minimum desirable field current for stable control. The curve from O to A shows the rise in armature amperes with speed for a fixed (maximum) field current.

### Improvements of Details

The tremendous growth in the use of electric motive power within the past 12 years has spurred the development of many details of electrical equipment. Roller-type armature bearings are almost invariably used in modern motors and generators, while the felt-wick lubricator has replaced wool-waste packing for many types of bearings. Motors and generators for self-propelled electric motive power, not being subject to high voltage surges or lightning, need not be insulated as heavily as those for trolley-electric locomotives, thus leaving more space for copper. The use of fabricated steel frames, wedged armatures, non-magnetic bands, and improved copper sections has assisted greatly in increasing equipment capacity without increase in weight and size. Technological improvements of this kind, with a vast background of intense and varied Diesel-electric services, are exerting their influence on the designs of equipment for trolley-electric and third rail-electric motive power.

### Renaissance

Electric motive power has changed considerably in character since the advent of the self-propelled types of locomotives. Seldom are the merits of a high center of gravity now discussed in relation to a locomotive design, nor the necessity of a minimum of unsprung motor weight. Flexible drives between a motor and an axle are no longer considered essential for high-speed service. Swivel truck designs are commonplace, where articulated truck construction was once considered imperative for heavy-duty locomotives. Where high horsepower per driving axle was once deemed an accomplishment, the desirability of such construction is now very questionable



except for locomotives which may be assigned to specific duties.

Almost all modern electric motive power is now being built with low weight and low horsepower per axle, the total locomotive horsepower required being obtained through the use of an increased number of axles. Since it is usually difficult to extend this to an unlimited number of axles under a single motive power unit, the result is generally secured by coupling several units together to form a locomotive. Such construction also improves the utilization of individual motive-power units, since one may be easily replaced for inspections or repairs without withdrawal from service of the whole locomotive.

The direct-current axle-hung motor with a single-reduction spur-gear drive has proved to be entirely satisfactory for any type of self-propelled locomotive and for all classes of service. This is a definite simplification over many of the older trolley-electric locomotives. The modern high ventilation rates, resulting in high capacity with a minimum size and weight, are partly responsible for this result.

The release of the electric locomotive from the confines of electrified tracks by the addition of one or more prime movers to each locomotive has disclosed some of its inherent characteristics which could not be fully utilized under previous operating conditions. Also, the remarkable development of the self-propelled electric locomotive has promoted standardization of equipment parts which has never been

found practical for trolley-electric locomotives. This has resulted in immense savings to the railroads.

Motive-power philosophy has undergone a reversal because of the self-propelled locomotive. Where trolley-electric or third-rail-electric locomotives were fitted to specific operating conditions, with few locomotives of similar construction, mass production has necessitated a standardization of the former, and services are now fitted to the capabilities of these standard sizes of self-propelled units, which has been found entirely practical. The influence of the railroad operating personnel and the mechanical engineer has also been strongly felt. Instead of complicated electrical control equipment, they have advocated, and in fact forced, the adoption of simple circuits and apparatus without loss of reliability. In this respect, modern self-propelled motive power has advanced a long way.

With the construction of new types of prime movers in progress, still further attributes of electric motive power are expected to emerge, especially as technological advancements occur. One such improvement in prospect, as an example, is the use of high-temperature (Class H) insulation, which should reduce the service limitations now imposed by the time-temperature factors of the application of commercial electrical equipment.

The electric locomotive, long thought to have reached its zenith, is again leading the way toward improved railroad transportation.

## Communication . . .

### What Determines "Adequate" Service?

NEW YORK

TO THE EDITOR:

My attention has been called to an article in *Railway Age* of January 22, page 45, quoting an opinion of mine, in part [recommending restoration of passenger trains discontinued by the Staten Island Rapid Transit].

Whoever wrote the article, and whoever wrote its caption, apparently had not before him what I had written in full. It is certainly also obvious that whoever compiled the article had no idea of what our law imposes in regard to adequate service, nor what that term means.

The whole purport of your article seems to be that I have held that adequate service means a constant supplying of an increased service, although this is running the railroad into financial ruin. Such an interpretation of my opinion is wholly unwarranted.

What I held and what the law demands, is that adequate service be provided. The term, "adequate service," is a flexible term and varies in accordance with the traffic to be carried and accommodated. In the face of bus competition at lower rates, the traffic will probably fall off. The company, of course, may adjust its service accordingly. If the traffic dwindles more and more, the service may be reduced more and more. The service, however, must at all times conform with the reasonable requirements of the traffic at the time.

If, due to bus or other competition, the railroad is

running at a loss, the answer is not to render inadequate service, but to come before the commission for an increase in rates.

The increase in rates will probably tend to diminish the number of riders, so that you have a situation of increase in rates, then diminishing riders; diminishing riders may require a further increase in rates, etc., in a cycle, which I referred to as "a vicious cycle."

GEORGE A. ARKWRIGHT

Commissioner,  
New York Public Service Commission

[Our article was based on an official release of the New York Public Service Commission; all quotations in the article were taken directly from that release. *Railway Age*, of course, recognizes that there may be honest differences of opinion as to what constitutes "adequate service" under any given set of conditions. The Staten Island case appears to be an instance of such difference, the carrier's appraisal of the extent to which it could "adjust" service being at variance with Commissioner Arkwright's. We do not agree that our article said or implied that he held that "adequate service" means constantly "increased service." The issue was restoration of trains that had been discontinued. The suggestion that the proper remedy is a "vicious cycle" of higher rates and fewer passengers impresses us, however, as being a policy of slow starvation of private enterprise in the face of subsidized publicly owned competition. We wonder if the commission's philosophy as expressed in the Long Island commutation fare increase authorization (reported elsewhere in this issue) might not be more effective in postponing as long as possible the time when such subsidized competition may force total abandonment—leaving communities no railroad service at all.—EDITOR.]



One of the million-dollar revisions of grade and alinement that will be continued during the year is that on the Great Northern just west of Wenatchee, Wash. The dash line indicates the new location. The stub track in the foreground is a temporary construction track.

Undaunted by a number of deterring influences, including declining traffic and higher labor costs, railway engineering and maintenance officers have boldly embarked upon heavy programs of construction and maintenance work in 1949. These programs contemplate that the railways will spend an estimated \$330,000,000 for capital improvements to their fixed properties, \$1,440,000,000 for maintenance-of-way and structures, and about \$19,000,000 for new work equipment.

These estimates are based on information obtained by *Railway Age* from the engineering officers of a typical group of roads in the United States and Canada concerning their plans for the current year with respect to both maintenance and construction. The chief engineers or engineers maintenance of way of 39 roads, representing 81 per cent of all the operated mileage of the two countries, reported on their 1949 budgets. Thirty of these roads gave details of proposed expenditures. Of these, 13 reported that total expenditures for their fixed properties would exceed those of 1948—one by as much as 50 per cent, and two others by 25 per cent each. Five roads indicated that they would spend less than they did last year, without stating how much less or for what reasons their programs were being reduced. The remaining 12

## LARGE CONSTRUCTION AND

roads reported that their total expenditures would be about the same as they were during 1948.

Although the \$330,000,000 that probably will be spent for additions and betterments to roadway and structures this year is slightly less than the \$350,000,000 spent in 1948, it is larger than expenditures in any other year since 1930. The 1949 expenditures of the railroads of the United States probably will be about \$290,000,000. That should be evidence enough that railway officers generally agree with the President's Council of Economic Advisors, which said in a recent report that "substantial expenditures on permanent way will be needed to reduce grades and curves and lay heavier rail." Neither do they have to be told how desirable it would be for improvements to roadway and structures to average annually for a number of years "about \$300,000,000," as suggested by the President's advisors, for it is a matter of record that the Class I roads of the country, alone, spent \$298,778,000 for this purpose in 1947 and about \$330,000,000 in 1948. Therefore, in spite of the down-





Much of the construction work planned for 1949 will involve Diesel-locomotive facilities, such as this shop of the Detroit, Toledo & Ironton recently completed at Flat Rock, Mich.

## AND MAINTENANCE PROGRAMS PLANNED FOR 1949

***Expenditures for maintaining tracks and structures to exceed last year***

***—Those for additions and betterments to be off slightly, but still high***

ward trend in traffic and other adverse factors, it is unlikely that the improvement program now started will be curtailed very much during the year.

Since 1935, capital outlays for equipment have exceeded those for roadway and structures. That trend, which bids fair to continue for a time, is having a two-fold effect on the magnitude and character of road improvements. The first is a definite lessening of the money available for roadway and structures work. The second is the fact that the majority of the road improvement projects, as well as the major portion of the expenditures, are being influenced by the purchase of the very new motive power that is taking such a large share of the capital dollar. Among other things being called for by the operation of Diesel-electric

locomotives, which are able to pull longer trains at higher speeds, are the lengthening of passing sidings and yard tracks, the rearrangement of ladders, the reduction of curvature, and, what is still more important, the construction of many Diesel-locomotive servicing and shop facilities.

While 49 per cent of the roads giving detailed information as to their budgets indicate they plan some type of improvement work connected with engine-handling facilities, only two roads reported having plans for sizable improvements connected with the handling of steam locomotives. Two of the Diesel and one of the steam engine-handling and servicing facilities will cost more than \$1,000,000 each, and all reported projects in this category will total in excess of



\$7,000,000. This constitutes the largest single category of improvement work reported planned for the current year.

More roads—53 per cent—reported yard improvements than reported work in any other single classification. Of the number of roads that gave specific information as to their expenditures, however, only one indicated yard work in excess of \$3,000,000. Each of several others specified that it would complete a major project but failed to state the estimated cost involved. A least one other road that failed to give specific information is presently engaged in one of the largest yard construction projects in North America.

### **Realignments Important**

Revisions of grade and alignment, on which there was more activity in 1947 than in any other category of improvement work—but which were not prominent in the detailed budgets for 1948—will receive major attention on some roads during 1949. In fact, the activity planned in this category by those roads supplying specific information indicates that appropriations for curve and grade reduction rank third among the larger classifications of work planned by these roads for the year.

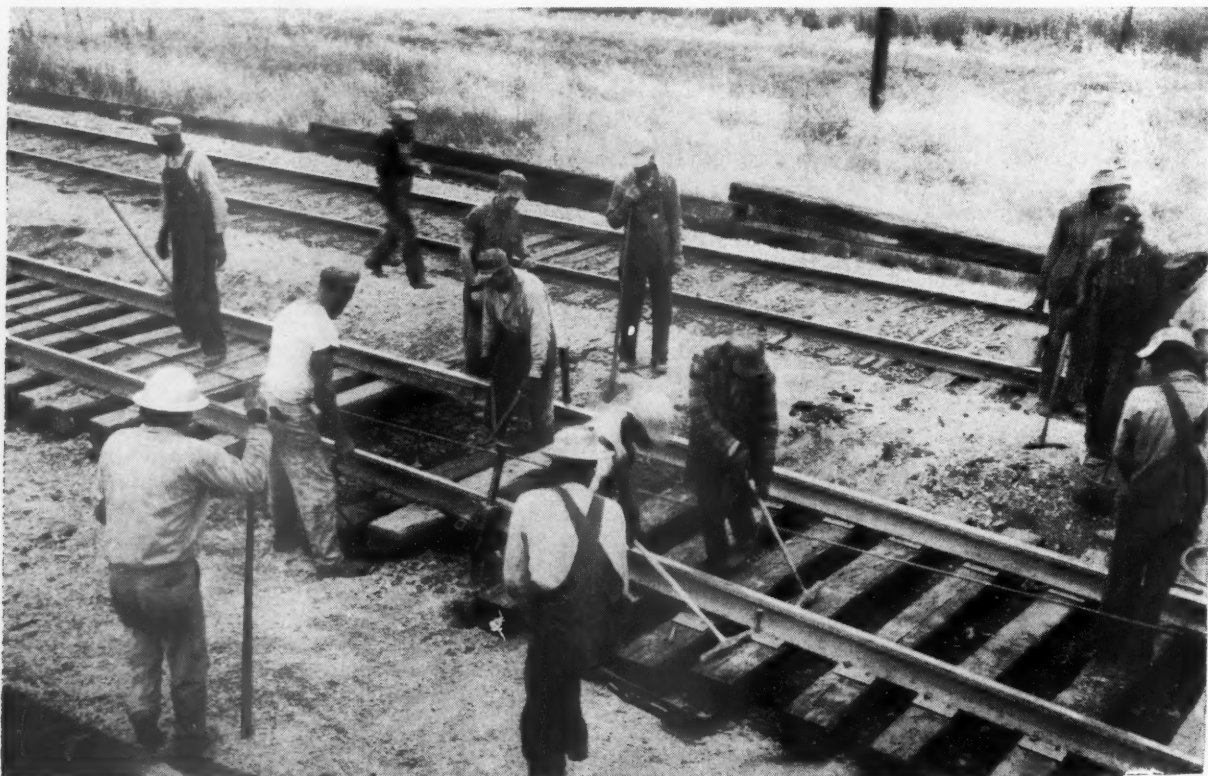
Signaling construction also promises to continue at a high level in 1949. In this work the protection of highway and pedestrian traffic will receive large attention. A total of 32 roads reported that additional protection will be installed at 1,244 crossings during the year. This indicates that 1,360 crossings will re-

ceive such attention throughout the United States and Canada in 1949. This compares with 789 actual installations during 1946, 1,084 in 1947, and 1,391 in 1948. Grade crossing eliminations, it seems, will continue to increase during 1949. The reports of 25 roads indicate that they have in progress or expect to participate in 170 projects during the year. This compares with 113 projects planned by 23 roads in 1948 and 71 grade separations reported by 20 roads in 1947.

The railroads of the United States and Canada will spend on the maintenance of their fixed properties in 1949 about the same amount as was actually spent during 1948. On the basis of specific information received from 28 roads, maintenance expenditures of all the roads of the two countries will amount to about \$1,435,000,000. This is \$45,000,000 less than it was expected they would spend last year, but about \$90,000,000 more than it is estimated was actually spent.

Only four roads reported that their current maintenance budgets are smaller than they were in 1948. Fourteen roads reported that they would spend about the same as last year, while a similar number plan to spend more. Practically all of the roads which gave detailed information as to their budgets reported that they intend to lay new rail during the year. One road indicated that it would lay as much as 130,000 net tons, while another plans to install over 100,000 tons. The 39 roads making reports plan to lay an aggregate of 1,495,900 net tons during 1949. This will be almost as much as was laid by all the Class I roads in 1948.

From this, it is estimated that all of the railroads in the United States and Canada will lay a total of 1,850,000 net tons during the year. These figures rep-



Maintenance budgets include the installation of 43,000,000 cross-ties and the out-of-face surfacing of 25,000 mi. of track

resent not what these railroads hope to lay, but rather the amount they expect to receive from the steel mills. With the prospect that declining freight traffic will diminish the pressure for new freight cars, it is entirely possible that during the year some of the steel now being allotted to the construction of new cars can be diverted to rail. If such an eventuality should occur, it may be expected that as much rail will be ordered from the mills as it is possible for the maintenance forces to lay.

The need for new rail cannot be minimized. The Engineering Section of the Bureau of Valuation of the Interstate Commerce Commission reported on January 19 that deferred maintenance in the rail account, 1942 to 1948, inclusive, had accumulated to a total of \$96,566,000. In its report it is estimated that this amount represents about 2½ years of normal installations when traffic volume is heavy. Concerning the general rail situation, the report says, "since the average life of new rail is less than 20 years, it would follow, if our estimate is correct, that operating efficiency, if not impaired, is at least reaching the point where such efficiency is threatened." The heavy rail-laying programs planned for 1949 indicate that railway officers are doing all they can to minimize this danger.

To protect the life of their newly laid rail, as well as to improve the riding quality of other portions of their track, the officers of 37 roads reported that they plan to surface out of face a total of 18,675 mi. of track during the year. One road indicated that it plans to surface 4,000 mi. of track, two other roads will each surface about 2,000 mi. of track, and several others indicated that they will raise more than 1,000 mi. Projected over the entire mileage of the country, it is estimated that this type of work will be performed on more than 25,000 mi. of track during 1949.

The completion of this large amount of track-raising-and-surfacing work will require an estimated total of 33,000,000 tons of ballast. Of this amount, 24,000,000 tons will be used on 37 roads. According to the I.C.C. there had accumulated, 1942 to 1948, inclusive, a deficiency in ballast amounting to 15,399,000 cu. yd. The large program scheduled for 1949 should at least prevent this from getting any larger.

### **Tie-Renewal Rate Declining**

According to reports to *Railway Age*, it is estimated that tie replacements on all the railroads of the United States and Canada will be 43,000,000 this year. This total just about equals the number of ties actually installed in 1948. According to the I.C.C. studies on deferred maintenance, there has accumulated since the beginning of 1942, a deficiency of only 62,965,000 ties on the Class I roads. Of the 39 roads reporting on their tie allotments, 11 indicated that their rate of renewals was decreasing, four reported the rate increasing, and the rest stated that their rate was either normal or about the same as last year. The reasons given for the decreasing rate of renewals of cross-ties by the officers of the railroads to whom queries were sent were very informative. One road reported that its tie renewals have reached the low of a continued decrease since 1938, and that it now expects a gradual

increase in tie consumption. In 1927 this road inaugurated a sustained program to replace untreated ties with treated ties. Its oldest treated ties have now been in track over 21 years, and it is logical to expect that a slow rise in tie renewals might occur for several years, especially when its present renewal rate is only 0.9 per cent of all ties in track. The experience of this road is typical of most of those roads reporting on allotments, indicating that for those roads which started to install treated ties early there has been a period of declining renewals—such as is still evidently in progress generally—which will continue until a greater number of treated ties require replacement. After that, it is expected that the renewal rates on these roads will increase until they become stabilized according to the average life of treated ties under the conditions pertaining on the individual roads.

According to the reports received, little else can be said of contemplated bridge and building maintenance programs in 1949 than that they are going to be routine or normal. Some roads plan to do slightly more bridge painting, others plan to replace deteriorating members with steel which has been unobtainable in recent years, while some plan to do a large amount of trestle replacement of one kind or another. In general, however, nothing spectacular seems to be indicated for 1949.

In the maintenance of buildings only one road reported that its program would be heavy. Those that indicated they would do any sizable amount of work stated that it would be largely in connection with the rehabilitation of shops and enginehouses. Only nine roads reported that they plan to modernize any passenger stations. Most of these were indefinite as to the amount involved or number of the stations, but one road reported that it planned to do "considerable" station modernization.

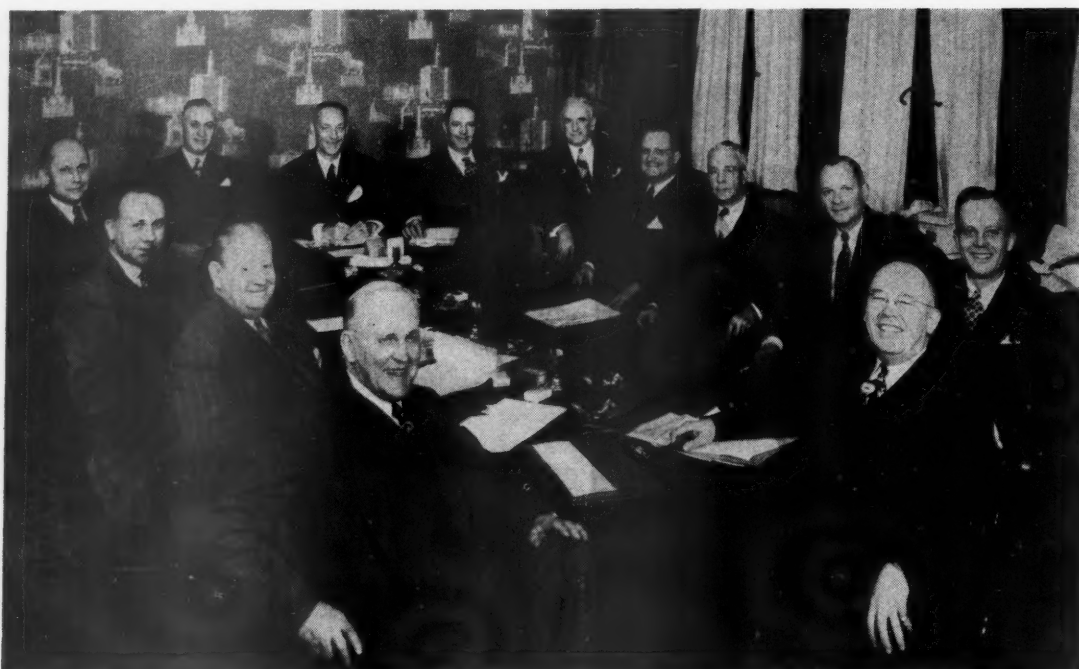
### **Work Equipment Purchases May Rise**

Present estimates of railway officers indicate that they will buy about 9,000 power tools and machines for the roadway and structures forces in 1949, at a cost of about \$19,000,000\*. However, there are indications that ultimate purchases may be much higher.

One of the greatest factors which portend a heavier demand for work equipment in the near future is the realization of railway officers that they will have to provide for greater efficiency and productivity of their forces if they are to complete the amount of work that is necessary. One officer has estimated that to accomplish the same amount of work on the new shorter-work-week basis, the railways will have to acquire 20 per cent more work equipment. While this man was speaking primarily of extra gangs, another officer, referring primarily to section forces, said bluntly, "the tamping pick is doomed."

Under the impetus of such necessity, it seems unlikely that railway officers will be content to provide power tools and machines for their forces to anything less than the maximum degree consistent with railway earnings and the quality, availability and adaptability of the machines offered to them.

\*A more detailed review of these purchases appears in the March Equipment Economics Issue of *Railway Engineering and Maintenance*.



The Board of Direction of the National Railway Appliances Association in session January 7, when it met to allocate space at the Coliseum for the forthcoming exhibit. Proceeding clockwise around the table, beginning in the left foreground, are: R. B. Fisher (Buda Company) secretary, N.R.A.A.; E. D. Cowlin (Eaton Manufacturing Company); R. A. Carr (Dearborn Chemical Company); Walter H. Tudor (International Harvester Company); Philip A. Winston,

Attorney, N.R.A.A.; Jess Mossgrave (Austin-Western Company); H. M. McFarlane (O. F. Jordan Company); Lewis Thomas, (Q & C Co.) assistant secretary and director of exhibits, N.R.A.A.; Edward W. Backes (Carnegie-Illinois Steel Corporation); C. L. Mellor (Barco Manufacturing Company); John S. Hutchins (Ramapo Ajax Division, American Brake Shoe Company); John B. Templeton (Templeton, Kenly & Co.); Max K. Ruppert (P. & M. Co.) president N.R.A.A.

## N. R. A. A. ALL SET FOR IMPOSING EXHIBIT

**Will show latest developments in equipment and materials in Chicago, March 14-17, coincident with A.R.E.A. annual convention**

In keeping with the magnitude and importance of the American Railway Engineering Association's celebration of its Golden Anniversary in Chicago, March 15-17, the National Railway Appliances Association has arranged to display the largest array of equipment, devices and materials for railway use it has exhibited in 25 years. Altogether 112 manufacturers will show their products in a total of 236 booths. The exhibit not only will surpass in size and scope the large similar events of recent years, but is expected to elicit wider interest in its attractive displays.

The unusual size of the exhibit this year can be attributed to a combination of factors. One is the desire of supply companies to emphasize the identity of their products with engineering progress on the railroads, past and potential, as portrayed by special features on the program of the meeting of the A.R.E.A. Another is the general recognition of the in-

creasing need on the railroads for machines, devices and materials that will help to keep maintenance costs down while improving standards of upkeep. A third is the unusual number of new and improved products which manufacturers are anxious to demonstrate to prospective customers.

To accommodate those who will come to the convention early, the exhibit will open on Monday, March 14, one day ahead of the convening of the A.R.E.A., and will continue for four days. On each of these days the exhibit will be open from 9:00 a.m. to 6:00 p.m., except that on Thursday it will close at 3:00 p.m. Being located in the Coliseum on South Wabash avenue, the exhibit will be only a few minutes ride from the convention headquarters at the Palmer House by street cars, which may be boarded practically at the door of the hotel.

The exhibit is being directed by Max K. Ruppert



(P. & M. Co.), as president of the N.R.A.A.; R. B. Fisher (Buda Company), as secretary; and Lewis Thomas (Q & C Co.), as assistant secretary and director of exhibits.

### List of Exhibitors

The companies to participate in the exhibit, with the products they will have on display, are as follows:

#### A

**Achuff Railway Supply Company, St. Louis, Mo.**—rail anchors; spring washers; tie-saver track pad; rail and curve lubricator.

**Air Reduction Sales Company, New York**—hard-facing alloys; rail-cropping machine; carbide lamps; flame-cleaning and dehydrating apparatus; display of acetylene, oxygen, helium, argon, nitrogen, carbonic-gas and hydrogen cylinders.

**Alum-Atic Tube Systems, Inc., Cincinnati, Ohio**—pneumatic tube systems.

**American Fork & Hoe Co., Cleveland, Ohio**—rail anchors; safety rail forks.

**American Hoist & Derrick Co., St. Paul, Minn.**—enlarged photograph of 25-ton Diesel locomotive crane; blocks and sheaves; hand winches; clips; Diesel-electric locomotive cranes.

**Armco Drainage & Metal Products, Inc., Middletown, Ohio**—steel building with shed-type roof; various types of metal drainage pipes and products; and a specimen of ingot-iron culvert pipe with 40 years of railroad service.

**Austin-Western Company, Aurora, Ill.**—large photographs and an air-operated miniature of a 30-yd. automatic air-dump car.

#### B

**Barco Manufacturing Company, Chicago**—flexible-ball pipe joints; gas-operated unit tampers, hammers, drillers, rammers and spike drivers.

**Bell Aircraft Corporation, Buffalo, N. Y.**—power-driven, three-wheel, mechanically-dumping barrow.

**Bernuth, Lembcke Company, New York**—elastic rail spikes; tie-plate anchor spike.

**Binks Manufacturing Company, Chicago**—portable paint spraying outfits; pressure tanks; spraying equipment; pressure oiler; and displays of spray booths.

**Bird & Son, Inc., East Walpole, Mass.**—sections of crossties on which tie pads have been in actual service.

**Buda Company, Harvey, Ill.**—roadbed grouter; Diesel-electric generator set; power track drill; power rail bender; aluminum-alloy track jack.

**Butler Manufacturing Company, Kansas City, Mo.**—section of rigid-frame, truss-clear steel building; transparencies showing various uses of steel buildings; pictures of bulk oil storage tank facilities; pictures of facilities for manufacturing special products.

#### C

**Caterpillar Tractor Company, Peoria, Ill.**—crawler tractors; bulldozers; cable-control crane attachment; winches; and various parts.

**Chain Belt Company, Milwaukee, Wis.**—a concrete pump in operation pumping concrete through a 12-ft. pipe-line loop; portable self-priming water pumps; illuminated color pictures of concrete mixers and truck mixers in operation.

**Chicago Pneumatic Tool Company, New York**—air compressors; gasoline unit tampers; pneumatic tampers; spike drivers; drills; wood borers; impact wrenches; grinders; electric tools.

**Chipman Chemical Company, Bound Brook, N. J.**—de-icing grease and liquids; weed-killing service.

**Crerar, Adams & Co., Chicago**—pipe wrenches; railroad crayons; cutting-edge tools; track tools; bonding and track drills; electric lanterns; hydraulic jacks; burning torches; track tool handles; reflectorized signs.

**Cullen-Friedstedt Company, Chicago**—motion pictures of rail laying cranes in action; rail tongs; clamshell buckets; general crane accessories.

#### D

**Dearborn Chemical Company, Chicago**—rust preventive for structures; water-proofing for concrete structures; rust preventives and lubricants for rail joints; joint-bar fillers; protective coating for aerial cables; wrappers for pipe-line protection; feed-water treatment proportioning equipment and chemical pumps; deionizing equipment; cleaners for motive power and rolling stock; and high-speed motion pictures showing the mechanics of steam bubble formation and action of polyamide-type anti-foam.

**Henry Disston & Sons, Inc., Philadelphia, Pa.**—one and two-man gasoline-powered chain saws; pneumatic-powered chain saw, chain-saw; precision grinders.

**Duff-Norton Manufacturing Company, Pittsburgh, Pa.**—track jack; bridge jack; car jack; locomotive jacks; aluminum track jack.

#### E

**Eaton Manufacturing Company, Reliance Division, Massillon, Ohio**—various types of spring washers; panel displays showing historical advance and development of spring washers since 1899.

**Electric Tamper & Equipment Co., Ludington, Mich.**—vibratory tie tampers; gas-electric generator sets; interchangeable tamping blades; motion pictures showing multiple tampers in use.

**Encyclopaedia Britannica, Inc., Chicago**—research service; copies of publication.

#### F

**Fabreeka Products Company, Boston, Mass.**—samples; literature and installation photographs of composition materials used to absorb vibration and shock in bridges, turntables, crossings, tunnels, and scales; tie pads for reducing mechanical wear of ties.

**Fairbanks, Morse & Co., Chicago**—motor cars; push and trailer cars; wheels; pumps; light plants; scales; electric motors; portable lamps; illustrations of locomotives; locomotive models.

**Fairmont Railway Motors, Inc., Fairmont, Minn.**—inspection, section and extra-gang motor cars; weed mower; grouting outfit; train-order stand; tie sprayer; power sickle mower; highway-rail motor car; oil-spray car; motor car accessories; compressor trailer; electric starter.

**Frog, Switch & Manufacturing Co., Carlisle, Pa.**—solid-manganese, self-guarded frog; solid-manganese, one-piece guard rail; 20-ft., heat-treated switch point.

#### G

**G & H Rail Controls, Inc., Kansas City, Mo.**—rail anchors.

**General Chemical Division of Allied Chemical & Dye Corp., New York**—reproductions of noxious weeds; photographs and projected slides of weed-killer operations; literature on weed-killer formula.

**Gravely la-Nois, Inc., Davenport, Iowa**—two-wheel tractor including the following attachments: sickle mower, rotary lawn mower, rotary power brush, and snow plow.

**Griswold Signal Company, Minneapolis, Minn.**—automatic crossing gate with flashing lights; crossbucks; track sign; "Stop on Red Signal" sign; 40-ft. gate arm; automatic sidewalk gate with 15-ft. arm; rotating banner with flashing lights; large instrument case with false back; varied assortment of instrument cases, battery boxes, concrete foundations; individual parts including control panels, gate mechanism, gate motor, gate hold-clear, gate controller, gate buffer, gate-arm shaft, gate-arm lamps.

#### H

**Harco Corporation, Cleveland, Ohio**—rust preventive; cathodic protection.

**Harnischfeger Corporation, Milwaukee, Wis.**—arc welders; arc-welding electrodes; crane control; electric hoists.

**Hayes Track Appliance Company, Richmond, Ind.**—wheel stop; sliding derail; operating stand.

**Hilliard Corporation, Elmira, N. Y.**—lubricating and fuel-oil filters for use in connection with Diesel locomotives; oil purifiers for reclaiming Diesel-engine lubricating oil.

**Hobart Brothers Company, and its affiliate Motor Generator Corporation, Troy, Ohio**—d.c. electric motor-driven arc welders; gas-engine driven d.c. arc welders; gas-engine d.c. arc welders with a.c. auxiliary power generator; a.c. transformer-type welders; combination gas-engine driven

a.c. arc welder and a.c. power unit; combination electric-drive arc welder and railway-car battery charger; single-circuit, electric-motor driven railway-car battery charger; gas-engine driven railway car battery charger; pedestal-type buffer and grinder.

**Homelite Corporation, Port Chester, N. Y.**—one-man, high-cycle, electric chain saws in three sizes; electric paving breaker; high-cycle electric rail-grinding machine; gasoline-operated generators; gasoline-operated pumps; high-cycle electric tools and floodlights, including impact wrenches, grinders, concrete vibrators and nut runners.

**Hubbard & Co., Pittsburgh, Pa.**—rail anchors; spring washers; track tools; spike mauls; track chisels; sledge hammers.

**Hyman-Michaels Company, Chicago**—display of rail of various weights; working model of geared locomotives.

## I

**Industrial Brownhoist Corporation, Bay City, Mich.**—model of Diesel crane; display showing application of locomotive, Diesel-electric, steam and gas cranes; pile drivers; car dumpers; ballast-cleaning machine; coal and ore unloaders; storage bridges; clamshell buckets.

**Ingersoll-Rand Company, New York**—spot-tamper compressor in several models and sizes; pneumatic tie tampers, spike drivers and other tools; electric impact tools.

**International Harvester Company-Industrial Division, Chicago**—tractor and mower; crawler tractor with front-end loader; crawler tractor with angle dozer.

## J

**Johns-Manville Sales Corporation, New York**—composition pipe; asbestos wallboards; asbestos-composition smoke jack; ready-to-lay roofing; asbestos shingles for roofing and siding; flooring.

**O. A. Jordan Company, East Chicago, Ind.**—spreader; ditcher; snow plow.

**Joyce-Cridland Company, Dayton, Ohio**—aluminum-alloy track and journal jacks; air-motor jacks; automatic lowering jacks; hydraulic jacks; locomotive screw jacks; hydraulic bus and truck jacks; standard-speed jacks.

## K

**Kalamazoo Manufacturing Company, Kalamazoo, Mich.**—motor car with all-steel top; motor-car wheels; motor-car axles; model 27AW motor car; speed truck; engine and transmission; motorized concrete buggy.

**Kershaw Company, Montgomery, Ala.**—wheel-type cribbing machine; utility derrick; spike setter and distributor; crane; ballast plow and distributor; ballast regulator and dresser.

**Koehring Company, Milwaukee, Wis.**—pictures of shovels, draglines and mud-jacks; crane with propulsion car; power wheelbarrow; concrete mixer.

**Koppers Company, Pittsburgh, Pa.**—protective coatings; creosote; a new protective coating for ties; examples of pressure-treated timber for railroad application.

## L

**Lehon Company, Chicago**—asphalt roll roofing and shingles; cold-process roofing; hot built-up asphalt roofs; waterproof felts; fabrics and papers; asphalt roof coatings; aluminum paint.

**LeRoi Company, Milwaukee, Wis.**—tractor-mounted compressor with eight tie tampers; tractor-mower with oil-bath mower head; engine; rock drills; breakers and air tools.

**Locomotive Finished Material Company, Atchison, Kan.**—cast-steel alloy, self-guarded frog.

**Lufkin Rule Company, Saginaw, Mich.**—measuring tapes; rules; precision tools, including chain tapes.

## M

**Maintenance Equipment Company, Chicago**—rail and flange lubricator; reversible, switch-point protector; photographs of yard and main-track type lubricators; photographs of power rail layers.

**Mall Tool Company, Chicago**—portable electric saws and drills; timber chain saws; portable track grinders, rail slotter, rail drills, flexible-shaft grinders; gasoline-engine and electric-powered concrete vibrators.

**Master Builders Company, Cleveland, Ohio**—cement disper-

sing agents; plasticizing agents for concrete and mortar; membrane curing compound; non-shrink mortars; metallic-hardened concrete-floor; rust joint iron pressure grouting machine; pre-cast signal houses.

**Matisa Equipment Corporation, Chicago**—movies of ballast cleaning and tamping machines in operation.

**Midland Company, South Milwaukee, Wis.**—tractor mowers with attachments, including sickle-bar mowers, lawn mowers, snow plows.

**Mid-West Forging & Manufacturing Co., Chicago**—rail anchors.

**Minnesota Mining & Manufacturing Co., St. Paul, Minn.**—reflective sheeting; reflective fabric; ready-made reflective wayside signs and crossing signals.

**Modern Railroads Publishing Company, Chicago**—copies of publication.

**Morrison Railway Supply Corporation, Metalweld Process Division, Buffalo, N. Y.**—photographs and literature showing the process of welding frogs and crossings; adjustable rail holders; switch-point guards; track stabilizers; welded pile shoes.

**Murdock Manufacturing & Supply Co., Cincinnati, Ohio**—water service devices; drinking fountain; air valves; check valves; Diesel watering hydrant; hose coupling guards; car wash boxes; street washers.

## N

**National Aluminate Corporation, Chicago**—literature on water treatment; chemical proportioning equipment and service.

**National Lock Washer Company, Newark, N. J.**—spring washers.

**Nelson Stud Welding Division of Morton Gregory Corporation, Lorain, Ohio**—demonstration of welding methods; models of welded railway equipment; photographs.

**Nichols Engineering Company, Chicago**—photographs of transfer tables; turntable tractors; roller-bearing turntable trucks; motive drives.

**Nordberg Manufacturing Company, Milwaukee, Wis.**—tie adzer; rail drill; grinders; power jack; spike puller; spike hammer; track wrench; track gager; cribbing machine and set-off device; bit grinder; tension meter.

**Northwestern Motor Company, Eau Claire, Wis.**—section motor car; B.-and-B. gang car; weed eradicator and ballast smoother.

## O

**Oliver Iron & Steel Corp., Pittsburgh, Pa.**—gage rods, tie-plate drive spikes; hold-down drive spikes; washer-head timber drive spikes; timber grips, screw spikes; track bolts; frog bolts; heel-block bolts; switch bolts; rivets; machine bolts; carriage bolts; lag bolts; water-tight bolts; cap screws; nuts.

**D. W. Onan & Sons, Inc., Minneapolis, Minn.**—engine-generator units of various sizes; portable welder; portable floodlighter; packaged-power Diesel generator units for cabooses; small a.c. generator units; cut-away model of 10-hp. engine.

**Oxweld Railroad Service Company, Chicago**—specimens of oxyacetylene pressure-welded rail; slides showing the history and growth of standard rail lengths; displays comparing the costs of continuous welded rail with jointed rail.

## P

**P. & M. Co., Chicago**—rail anchor.

**Pettibone Mulliken Corporation, Chicago**—forged steel adjustable rail braces; spring-switch mechanism; switch stands; hydraulic retarder for spring frogs; rerailling frogs; shoulder bolts; guard rails; spring switch compression gage cribbing machine; tie puller and derrick; bucket loaders; under-car unloaders; conveyors; clamshell and dragline buckets; unit tie tampers.

**Pittsburgh Pipe Cleaner Company, Pittsburgh, Pa.**—water pipe and sewer-cleaning equipment.

**Pocket List of Railroad Officials, New York**—copies of Pocket List.

**Powder Ballaster Division, Pullman-Standard Car Manufacturing Company, Chicago**—power ballaster with automatic ballast feed; cribbing-machine digger head assembly; power-ballaster tamper head assembly; scale models of the

power ballaster, cribbing machine and ballast cleaner; motion pictures of machines in use.

**Pyle-National Company, Chicago**—electric conduit fittings; plugs and receptacles; floodlights; rear-end warning lights.

## Q

**Q & C Co., New York**—switch-point guard; step joints; alloy and rolled-steel car stops; anti-slip rail tongs; hand-throw derail; sliding-type derail; guard rail clamps; manganese one-piece guard rail; electric switch heater; adjustable rail brace; flangeway guard brackets; gaging tools; gage rods.

## R

**Racine Tool & Machine Co., Racine, Wis.**—portable rail saw; unit tampers; rail drill; bonding drill.

**Rail Joint Company, New York**—standard, compromise, and insulated joints; insulating fiber.

**Railroad Accessories Corporation, New York**—power track wrench; light-weight power bonding drill.

**Railroad Products Company, Cincinnati, Ohio**—water columns for steam and Diesel locomotives; sanitary hydrants; switch stands.

**Rails Company, New Haven, Conn.**—compression-type rail anchors; special track construction; bridge-tie anchors; propane and kerosene switch heaters; automatic switch point locks.

**Railway Age—Railway Engineering and Maintenance, Chicago**—copies of publications.

**Railway Maintenance Corporation, Pittsburgh, Pa.**—crib cleaner; ballast cleaner and excavator; rail joint packing; movies of this equipment in operation.

**Railway Purchases and Stores, Chicago**—copies of publication.

**Railway Track-Work Company, Philadelphia, Pa.**—rail-joint cross grinder; portable stock-rail grinder; power track drill; flexible-shaft grinder and attachments; surface grinder.

**Ramapo Ajax Division, American Brake Shoe Company, Chicago**—switch stands; rail lubricators; tie plates; integral-base crossing; gage rod; switch points, stock rails, and fittings; switch stand with switch-point lock.

**Reade Manufacturing Company, Jersey City, N. J.**—weed killer; track liner; spike puller.

**Ric-wil Company, Cleveland, Ohio**—various types of insulated piping for outside, underground, and overhead refrigeration piping; steam, process liquids and water piping.

**Rust-Oleum Corporation, Evanston, Ill.**—photos of rust preventive applications and other uses.

## S

**Skarnes Engineering & Supply Inc., Minneapolis, Minn.**—hydraulic-jack lift truck, including adjustable forks.

**Sperry Rail Service, Danbury, Conn.**—model of detector car, samples of defective rail; literature on rail testing and rail defects.

## T

**Taylor-Colquitt Company, Spartanburg, S. C.**—animated display of the vapor-drying process; cross sections of vapor-dried and creosoted poles and ties; specimens of salt-treated and vapor-dried lumber; photographs of pole-peeling machine.

**Teleweld, Inc., Chicago**—literature on service for railroads.

**Templeton, Kenly & Co., Chicago**—lift jacks, including light-weight models; rail expanders; tie spacers; track shifters; bridge jacks; jack support utility tool hydraulic pullers; hydraulic jacks.

**Thorney Railway Machine Company, Joliet, Ill.**—model of track cribbing machine.

**Timber Engineering Company, Washington, D. C.**—timber connectors; literature on connectors.

## U

**Unit Crane & Shovel Corp., Milwaukee, Wis.**—crawler-type railroad crane; self-propelled mobile cranes.

**United Laboratories, Inc., Cleveland, Ohio**—simulated platform with actual application of floor resurfacing material.

## W

**Warsop Power Tools, Inc., Philadelphia, Pa.**—self-contained, portable concrete breaker; self-contained, portable rock drill and various attachments for each.

**Wayer Impactor Sales Company, Columbus, Ohio**—bituminous paving impactor.

**Western Railroad Supply Company, Chicago**—flashing light signal and crossing gate assembly; manually-controlled electric crossing gate; bridge and pier lights; signaling and communications accessories.

**Western Tool & Manufacturing Co., Springfield, Ohio**—circular, square, hexagon, and extra-length expanding mandrels; steel storage racks; grinding wheel dressers and cutters; aluminum-alloy "C" clamps; hack saw stands.

**White Manufacturing Company, Elkhart, Ind.**—switch heaters with remote control equipment; several models of concrete vibrators and grinders; different types of kerosene torches and burners; small bituminous mixer.

**Wisconsin Motor Corporation, Milwaukee, Wis.**—three new models of four-cycle, single-cylinder, air-cooled engines; two models of two-cylinder engines; cut-away models of the four-cylinder type engine.

**Woodings-Verona Tool Works, Verona, Pa.**—track tools; rail anchors; nut locks; springs.

**Woolery Machine Company, Minneapolis, Minn.**—tie cutter; weed burner; flangeway cleaner; chemical sprayer.

## EQUIPMENT SPEEDS YARD GRADING

—High-speed grading equipment, including an electric-control C Tournapull, Super C Tournapulls and Tournatrailers, was used effectively in building a 1,200,000-cu. yd. fill for 35 mi. of new trackage recently added to the Chesapeake & Ohio's yards at Race-land, Ky. The major portion of the fill material was sand or sandy clay, wet from underground seepage, making hauling heavy until the material had become compacted under the traffic of the grading equipment. The work was carried out under contract by the Haley, Chisholm & Morris Construction Co., which sublet 800,000 cu. yd.

of the grading to the Ralph Myers Construction Company, Salem, Ind. The job was completed nearly a month ahead of schedule. Shown above is a Tournapull unloading and spreading material for the new fill





# RAILROADS PRESS FOR HIGHER FREIGHT RATES

**Hearings begin in Washington, D. C., on proposal to supplant interim Ex Parte 168 increase of 5.2 per cent with permanent advance of 13 per cent**

Hearings on the railroads' Ex Parte 168 petition for a permanent freight-rate increase of 13 per cent got under way in Washington, D.C., on March 1 before Division 2 of the Interstate Commerce Commission. The proposed increase would supplant the interim advance of 5.2 per cent which was approved by the commission in its report of December 29, 1948 (see *Railway Age* of January 8, page 242).

Commission Chairman Mahaffie is presiding, and on the bench with him are the three other members of Division 2 — Commissioners Aitchison, Splawn and Alldredge. Commissioner Aitchison is chairman of the division, but he asked Mr. Mahaffie to preside after announcing that he had a cold and had been advised not to talk. Also sitting are Chairman N. J. Holmberg of the Minnesota Railroad and Warehouse Commission and Commissioner Kenneth Potter of the Public Utilities Commission of California, members of a cooperating committee of state commissioners. The time requested by parties for the making of their presentations totaled 57 hrs. 10 min., which would indicate that the Washington hearings will extend over about 10 days.

They opened with railroad presentations designed to point up changes in the situation since the November and December hearings which made the record on the basis of which the interim increase was approved. Railroad witnesses appearing at the opening sessions included Dr. Julius H. Parmelee and J. Elmer Monroe, vice-president and assistant vice-president, respectively, of the Association of American Railroads and also, in turn, director and assistant director of its Bureau of Railway Economics; J. M. Symes, vice-president (operation) of the Pennsylvania; and P. M. Shoemaker, vice-president (operation) of the Delaware, Lackawanna & Western.

## **Scaling Down Would Be "Disservice"**

Before introducing their testimony, Jacob Aronson, vice-president and general counsel of the New York Central, who is serving as chief counsel for the railroads, made a brief opening statement. He said that the railroads will stand on their present application for the difference between the interim advance and a full 13 per cent increase. Any scaling down of that application "would constitute a most serious disservice," Mr. Aronson asserted.

"With the advent of the heavy additional cost that will be incurred as a result of the 40-hour week for

non-operating employees which President Truman's fact-finding board recommended should be put into effect next September 1," he continued, "it is apparent that the railroads' application represents the extreme minimum to enable the railroads to get by. However, the railroads are not in a position to give any assurance that they will succeed in their efforts to get by. The most they can say is that they will try their best. Much, of course, will depend upon the volume of traffic. To the extent that the railroads may succeed in this effort they will make a salutary contribution in combating the postwar inflationary spiral."

Dr. Parmelee's testimony was based on a comprehensive statistical exhibit which brought down to date the figures presented in the like exhibit which he had offered at the previous hearings. The B.R.E. director's present appraisal of the 1949 outlook indicates that, if present rates and fares remain in effect throughout the year, the freight traffic will total 586.5 billion ton-miles, a decrease below 1948 of 8.2 per cent; and the passenger traffic will total 36.4 billion passenger-miles, a drop of 11.4 per cent. "The ton-mile volume estimated for 1949," Dr. Parmelee added, "is less than in any year since 1941 and is about 20 per cent below the wartime peak established in 1944. The passenger-mile estimate is lower than for any year since 1941 and is about 62 per cent below 1944."

## **Outlook for 1949**

With 1949 traffic on that basis, the present rates and fares would produce gross revenues of about \$9,412 million, a decrease of about \$260 million below 1948. Meanwhile, operating expenses would rise an estimated \$70 million to \$7,541 million, a figure which includes the 7 cents per hour wage increase recommended by the emergency board for non-operating employees but no allowance for the cost of the 40-hour week, recommended to become effective next September 1. Continuing on the same basis, Dr. Parmelee calculated that the 1949 net railway operating income would be about \$807 million, a return of 3.53 per cent, as compared with 1948's \$1,002 million, a return of 4.38 per cent. And the net income would be down to \$497 million, from last year's \$700 million.

As to the proposed further increases, Dr. Parmelee estimated that they would yield about \$550 million a year. On the basis of an assumption that they become effective July 1, he estimated that this year's freight traffic would total 585.9 billion ton-miles; and that the gross revenue would total \$9,689 million. The net railway operating income would be \$969.6

million, a return of 4.19 per cent; and the net income would be \$650.7 million. Other Parmelee figures, also assuming that the proposed increases will become effective July 1, further assumed that the 40-hour week for the "non-ops" would become effective September 1, as recommended by the emergency board. Then the estimated 1949 net railway operating income becomes \$866.6 million, a return of 3.79 per cent.

Dr. Parmelee also referred to other figures in his exhibit which restated the 1949 estimated revenues, expenses and payroll taxes on the basis of 1939 rates, fares and unit costs. These computations showed the estimated 1949 revenues, on the basis of current rates and fares, at 47.7 per cent above what they would be on the basis of 1939 rates and fares. Meanwhile, operating expenses and payroll taxes were up 92.8 per cent, without any allowance for the cost of the recommended 40-hour week.

### **Cost of 40-Hour Week**

The cross-examination of Dr. Parmelee was deferred, so Mr. Monroe appeared to introduce and explain an exhibit showing the estimated cost of establishing the recommended five-day week of 40-hours for non-operating employees. The exhibit put the annual cost at \$480,818,000 on the basis of 1948 service hours and \$471,202,000 on the basis of estimated 1949 service hours. These estimates assume, "contrary to carriers' evidence" in the emergency-board proceeding, that all men necessary to establish the shorter week would be available; that present rules which now provide for penalty pay for Sundays and holidays will be disregarded; and that all employees will have two days off each week.

As Mr. Monroe otherwise put it, the estimates "do not take into account certain conditions being insisted upon by union representatives now in conference with our railroad negotiating committees." Such conditions, he added, "are viewed by the carriers as efforts on the part of the employee representatives to enlarge upon the board's recommendations, and the Carriers' Conference Committees have been steadfastly resisting any enlargement."

James K. Knudson, attorney for the Department of Agriculture, asked Mr. Monroe what would be the "next step" if the carrier and union representatives failed to reach an agreement in the "non-ops" case. Mr. Monroe replied that he did not know; and Commissioner Aitchison broke in to say: "Probably the appointment of a lot of colonels, wouldn't it?"

### **Testimony of J. M. Symes**

Vice-President Symes of the Pennsylvania told the commission that an increase in freight rates is needed at this time because, even with the "substantial" increases in railroad efficiency already achieved and the "moderate" rate increases already granted, the railroads have not yet been enabled to do all the maintenance work they should do and spend the "large sums vitally needed to improve railroad service."

Costs which ordinarily could be met by normal

increases in efficiency and rates, the P.R.R. vice-president said, have so "spiraled" that the railroads need more help rate-wise if they are to continue to function as modern instruments of transportation. On the Pennsylvania alone, he continued, \$600 million should be spent in the next five years to improve the road's equipment and facilities.

"We have gone the limit in curtailing our maintenance budget," he added. "We have been piling deferred maintenance since the war on top of deferred maintenance that occurred during the war." He estimated that the P.R.R.'s deferred maintenance in the roadway, structures, and equipment for the period 1940 to 1948, inclusive, at \$254,267,000 in terms of 1948 prices.

Mr. Symes likened the situation now confronting the railroads to that immediately following World War I. At that time, he said, the railroads spent almost \$6 billion for property improvements and were able to carry the peak load of 1929 with efficiency and economy and, "largely as a result of these expenditures, to survive during the depression period." He saw the present situation as "little different" from that of World War I's postwar period—"about the only difference being that it is 25 years later and under an entirely different economic level." Following through from that statement, Mr. Symes noted that freight cars today cost \$5,000 as compared with \$2,500 in the Twenties; locomotives cost \$615,000 as compared with \$100,000; and passenger cars cost \$135,000 as compared with \$30,000.

To point up the efforts being made by the railroads to increase their efficiency, the P.R.R. vice-president cited the all-time records made in 1948 by his road in various standards of freight operation. He also referred to P.R.R. efforts to improve service and efficiency through the purchase of new Diesel locomotives and new freight and passenger cars; the elimination of unprofitable passenger-train operations; and the increased mechanization of freight-houses and maintenance of way and equipment work. Also mentioned by the witness was the widespread introduction on the P.R.R. of train-telephone systems and the use of radar.

### **Denies Roads Reject Economy Proposals**

Meanwhile, Mr. Symes had undertaken to refute charges made at the earlier hearings that the railroads had not taken advantage of all opportunities to increase the economy and efficiency of their operations. In doing so, he addressed himself specifically to such charges as they were set out in a motion filed by Mr. Knudson on behalf of the Department of Agriculture and denied by the commission in its report approving the interim increase. The motion sought denial of the interim-relief petition and a broadening of the commission's investigation of the permanent-increase proposal to require a showing as to the extent to which the railroads are supplying the adequate and efficient service contemplated by the Interstate Commerce Act.

The motion listed C. E. Childe, formerly a member of the defunct Board of Investigation and Research,

as the department's transportation consultant; and the accompanying argument cited various pronouncements of the B.I.R., the commission, and the former federal coordinator of transportation as to the economies which would result from such coordinating arrangements as unifications of terminals, pooling of freight cars, integration of merchandise traffic, and the reduction of circuitous routing.

Mr. Symes' comment on the department's allegations was interrupted by Mr. Knudson who pointed out that the motion had been denied and was thus no longer before the commission. Mr. Aronson said that the testimony was not being offered to respond to the already-denied motion; but to make a general refutation of charges that the railroads had not taken advantage of opportunities to effect economies in their operations. Chairman Mahaffie permitted Mr. Symes to continue, and Mr. Knudson later "renewed" the motion, announcing that he would introduce a witness who would discuss the efficiency of railroad operations. Chairman Mahaffie said that Mr. Knudson's "renewal" of the motion would be regarded by the commission as a petition for reconsideration of the previous denial, and would be taken under advisement on that basis.

#### **Need More Dollars Than in Twenties**

Meanwhile, Commissioner Splawn had asked Mr. Symes several questions regarding the present state of railroad earnings as compared with the situation in the Twenties. The witness conceded that the net railway operating income in some recent years approached the figures of the earlier period, but he noted that the rate of return has been "considerably less" in the recent years. He also told the commissioner that the carriers need more in dollars for property improvements than they did in the Twenties.

In response to questions from Mr. Knudson, the P.R.R. vice-president said his road tries to finance about half its capital improvements out of earnings. Returning to the question of efficiency, Mr. Knudson said that the Symes statement had failed to deal with I.C.C. pronouncements on that subject. The Department of Agriculture's attorney went on to cite statements in the latest annual report of the commission, calling them the regulatory body's "most recent expression" on the subject (see *Railway Age* of January 29, page 24). "In the interest of accuracy," as he put it, Commissioner Aitchison told Mr. Knudson that the commission's annual report was dated November 1, 1948, and the commission's "most recent" expression on the efficiency matter was "the denial of your motion" in the December 29, 1948, report approving the interim increase in the present case.

#### **Return on Diesel Investment**

As to anticipated savings from the operation of Diesel-electric locomotives, Mr. Symes told Mr. Knudson that the P.R.R. expects to realize a return of 30 per cent on its investment in Diesels when all those on order are in service. He conceded to Commissioner Aitchison that Dieselization by other roads has resulted in losses of coal traffic which the P.R.R.

formerly carried for some of those roads. And he estimated that the Pennsylvania's Dieselization program will result in the displacement of about 4 million tons of coal annually.

Mr. Symes told F. G. Hamley, general solicitor of the National Association of Railroad and Utilities Commissioners, that he did not attribute very much of the recent drop in traffic to the interim increases. Neither would he agree with John S. Burchmore, counsel for the National Industrial Traffic League, when Mr. Burchmore suggested that freight rates may have got to the point where they are "dangerously close to the ceiling."

Vice-President Shoemaker of the Lackawanna, like Mr. Symes, testified as to the efficiency and economy of railroad operations. "Efficiency and economy," he said, "are second only to safety as basic obligations of that segment of carrier management charged with operation." As evidence of the efficiency with which the railroads are today being operated, Mr. Shoemaker called attention to the fact that the average net load per freight train in 1948 was 46 per cent better than it was in 1929, and the net ton-miles per freight train hour last year were 76 per cent better than 20 years before. He also pointed out that the railroads in 1948 performed 54 per cent more net ton-miles of freight transportation service than in 1925, and they did this with 22 per cent fewer freight cars and 39 per cent fewer locomotives than they had in 1925.

#### **Dieselization a "Dramatic" Development**

Mr. Shoemaker also listed and commented upon various specific ways in which railroads have improved their operations. First place on the list was given to the introduction of Diesel-electric locomotives, of which he said "probably no development in our entire history has been more dramatic." Also on the list were the mechanization of freight station and maintenance-of-way operations, expansion of machine accounting, consolidation of facilities, and the use of radio in train and yard operations.

Mr. Shoemaker was subjected to brief cross-examination during the course of which he told Mr. Hamley that there would be little chance for the railroads to absorb the cost of establishing a 40-hour week for non-operating employees. The Lackawanna vice-president explained that railroads, unlike many other industries, cannot close over each week-end; and that the man-hours required for proper maintenance of roadway and equipment would remain the same. Mr. Burchmore suggested that the mechanization and modernization of stations had been confined to the larger stations, but Mr. Shoemaker disagreed. He said that improved facilities and handling equipment have been installed at many so-called country stations.

The Lackawanna vice-president was followed in the witness chair by Dr. Parmelee who returned for the cross-examination which had been deferred when he made his direct presentation. Mr. Hamley's presentation for the state commissioners' association got under way after the questioning of the A.A.R. vice-president was concluded.



## ARTHUR E. STODDARD NEW UNION PACIFIC CHIEF

*Election to presidency climaxes rapid rise through the ranks and a distinguished record in the Military Railway Service*

Arthur E. Stoddard was elected president and a director of the Union Pacific at a meeting of its board in New York on February 24, and took office on March 1, succeeding George F. Ashby, whose retirement for reasons of health became effective that date. Mr. Stoddard—twenty-first president of the 10,000-mi. system—will direct the railroad from its Omaha, Neb., headquarters. He has been vice-president at Omaha since September 1, 1948.

The new Union Pacific head is a "railroad man's railroad man." Twelve years after his birth at Auburn, Neb., on July 28, 1895, Mr. Stoddard started as a 25-cent-a-day water boy, working for his father who had a subcontract for the grading of the Chicago, Rock Island & Pacific's line from Guthrie, Okla., to Amarillo, Tex. In 1915 he went to work for the St. Louis-San Francisco as a shop apprentice at Springfield, Mo. Between railroad jobs, Mr. Stoddard attended business college, studying railway administration, and spent a year at Harvard (1917-1918) studying communications and business administration. The administrative studies, Mr. Stoddard says, were not his idea; the university was perhaps more aware of the young man's executive potentialities than he was himself.

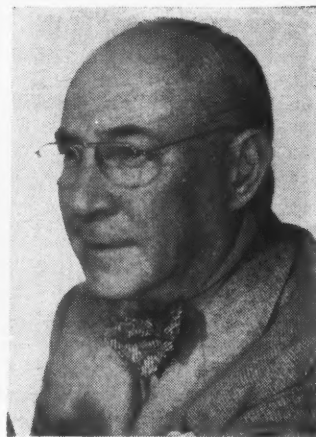
### Mr. Stoddard's Career

Mr. Stoddard entered the service of the Union Pacific as a student helper on April 4, 1916, at Gothenburg, Neb. Shortly thereafter he enlisted in the Navy, serving in World War I as a radio operator on transport ships in trans-Atlantic service. He was chief operator on the "U.S.S. Westerdike." After the Armistice, he served briefly in South America, and upon release from the Navy, returned to the Union Pacific. He worked up through positions as telegrapher, train dispatcher, trainmaster, and assistant superintendent.

In August, 1941, he was made superintendent of the newly-created Utah division at Salt Lake City. He moved to Cheyenne in December, 1941, as superintendent of the Wyoming division. In September, 1942, he was called into Army service in the rank of colonel in the Transportation Corps, and was sent shortly thereafter to Iran with the task of increasing tonnage to Russia over the Trans-Iranian railway. After a year on that duty, he returned to the United States as chief of the Rail Section, Office of Chief of Transportation, War Department, at Washington,



Arthur E. Stoddard



George F. Ashby

D.C., and then went to England as assistant director-general of the G-4 division of S.H.A.E.F. Following the invasion, he became general manager of the First Military Railway Service, commanding all rail transportation in the southern area of France and Germany.

Mr. Stoddard was relieved from active military duty in February, 1946, and went back to the U.P. as superintendent of the Kansas division at Kansas City, Kan. Effective April 1, 1946, he was promoted to assistant general manager of the Eastern district at Omaha, and he was made general manager on February 1, 1947. On September 1, 1948, he was appointed vice-president at Omaha.

Mr. Stoddard is a man more of action than of words and likes hard work. He describes himself as a "non-joiner," and states that he belongs only to those organizations "that all the railroaders belong to." While he is reluctant at this stage to set forth any immediate plans or policies, he inherits direction of a multi-million dollar improvement program which includes large-scale Dieselization, construction of high-speed classification yards, installation of heavier rail, extension of centralized traffic control, and construction of a 1½-mi. tunnel to eliminate the only single track on the Omaha-Salt Lake City main line.

### George F. Ashby Retires

Mr. Ashby, whose retirement took place March 1, was born September 3, 1885, at Mount Airy, N. C. He entered the service of the Union Pacific in 1911, serving in various capacities until he was elected vice-president on August 1, 1941. He was elected executive vice-president on December 1, 1944, and president on February 1, 1946.

Newcomb Carlton, who has been a director of the Union Pacific since January, 1922, and a member of the executive committee since January, 1924, has resigned for reasons of health, and Robert A. Lovett was elected to fill the vacancy. Mr. Lovett was formerly elected to directorship in 1926, and to membership on the executive committee in 1930. He served as assistant secretary of war for air during World War II, and as under-secretary of state from May, 1947, to January 20, 1949.

# GENERAL NEWS

## Long Island Files Bankruptcy Petition

**Trustees to be appointed on  
March 11; fare increase allowed**

The Long Island on March 2 filed in the United States District Court for the Eastern District of New York a petition for reorganization under the Federal Bankruptcy Law. An order was issued approving the petition and directing the present management to continue operating its property until the appointment of trustees at a March 11 hearing.

The petition pointed out that the Long Island has obligations totaling \$55 million, now due, which it is unable to pay. These consist principally of approximately \$40 million of bonds which matured on March 1, most of which the Pennsylvania is reported to have bought from holders. As of January 31, the current assets of the Long Island fell short by approximately \$5 million of meeting its current liabilities, and the corporation had only \$60,000 in available cash. Since 1934 the Long Island has been able to earn a profit only in 1936, and in the abnormal war years of 1943, 1944, and 1945. Part of the income in the latter years was of a non-recurring nature, coming from war traffic and sale of real estate. In the 10 other years since 1934 the road operated in the red, the average annual deficit being about \$1,682,100—or a total of approximately \$16,821,000. Since 1945 the road has operated at increasing deficits amounting to \$1,188,000 in 1946, \$3,996,000 in 1947, and \$6,016,680 in 1948. The deficit in January, 1949 was \$1,406,000. The deficit for February is estimated to be \$1,750,000. The Long Island is without sufficient funds to pay its debts and has no means of borrowing or otherwise procuring funds to pay them.

In the final analysis, the road said, bankruptcy was forced because passenger and especially commuter fares have not kept pace with the costs of carrying its customers.

While it was losing money, the Long Island petitioned the New York Public Service Commission for higher commutation fares in 1935, again in 1942, and again in 1947. The first two petitions were denied. The 1947 petition, filed in March, sought a 25 percent increase in commuter fares. A 20 percent increase was granted in July of that year on a temporary basis. That was

the first increase in commuter fares since 1918. The additional 5 percent sought was not granted until June, 1948, again on a temporary basis. In the meantime, spiraling costs of wages and materials more than wiped out the additional revenue brought in by higher fares.

### **Cost Increases Outstrip Revenues**

Since 1940 the Long Island's wage and material costs have risen over 80 percent and such increases have raised its costs of operation by more than \$23,000,000 a year. In contrast, its revenues have been increased by only \$15,900,000 a year.

"Commutation fares over a long period of years have been held by the Public Service Commission at the lowest level of fares charged by any road serving New York City, resulting in deferred maintenance, lack of improvements and deficit operations in many years," the road continued. "To the extent that relief has been granted by increases in such fares within the past two years, such relief has been too little and too late. As a result the growing population of the island finds the railroad's equipment inadequate, its rates too low for it to operate at a profit, without money or credit for needed improvements, and finally, in bankruptcy. The decision of the Public Service Commission released on March 1 is encouraging, as indicating a change in the attitude of the Commission as presently constituted, and is appreciated. However, as was stated at the hearings, the amount of the increase, estimated to be \$3,280,000 per year, is not sufficient to offset the increases in expenses and to overcome the deficit in net income of approximately \$8,000,000 per year on the present volume of business. . . . Advances by the Pennsylvania Railroad are ended. Now the road is faced with the grim necessity of living within its income as best it can."

The Pennsylvania, in a statement issued on March 2, said the Long Island "has been able to survive up to now only because of long continued and substantial financial help" provided by the Pennsylvania. "Total indebtedness of the Long Island to the Pennsylvania and its affiliated companies now stands at approximately \$55 million. The Pennsylvania purchased a majority interest in the Long Island Rail Road in 1901. Since then the Pennsylvania has invested a total of \$105 million to pay the losses and meet the obligations of the Long Island, and for the purpose

of making improvements on it. During the past 48 years the Pennsylvania has received dividends from the Long Island in only seven years, totalling \$18 million, the latest dividend having been paid in 1933. In that 48-year period the Long Island paid or became obligated for over \$42 million on account of grade crossing eliminations required by the public regulatory authorities, an amount in excess of its entire bonded indebtedness. Continuing and mounting deficits on the Long Island, its lack of credit, inadequate commuter fares over a period of many years, inflationary material prices, and burdensome wages increases under the Railway Labor Act, are the basis of the present situation. Under such conditions, the Pennsylvania had no alternative but to discontinue its advances to the Long Island."

### **Fare Increase Authorized**

The New York Public Service Commission on March 1 authorized the Long Island to institute an additional interim increase in commutation fares estimated to increase the road's annual revenues by about \$3,280,000. Pending determination of the road's request for a permanent increase, the new interim increase will be effective until next November 1.

Under the new fares, the commission recommended that the Long Island provide an unrestricted monthly commutation ticket good for unlimited riding on any day of the week at a price 33-1/3 per cent higher than that of the present 60-trip monthly ticket; a monthly ticket good for an unlimited number of rides daily but restricted to five days in each week specified in advance by the purchaser and selling at 20 per cent above the price of the present 60-trip monthly ticket; a 12-trip weekly ticket selling at 25 per cent of the cost of the new unrestricted monthly ticket; and a 46-trip monthly school ticket costing 25 per cent more than the present ticket of that type. The road was authorized to increase the present single-trip supplemental fare to Pennsylvania Station from 6 cents to 10 cents, with 10-trip supplemental tickets at 75 cents. Fractions of prices now ending in less than 0.5 cents will be dropped and fraction of 0.5 cents or more will be increased to the next whole cent. (See *Railway Age* of November 13, 1948, page 62).

"It is hard to make this decision which places a heavy further burden on Long Island Railroad commuters," Maurice C. Burritt, chairman of the commission, said. "However, the facts of record permit no other alternative. Moreover,

the immediate practical problem of whether this railroad can survive under private ownership must be considered. This further increase in rates may not save it from receivership but it will help and it is our duty to grant it. The maintenance of reasonably adequate service has become even more important than rates."

Bankruptcy or collapse of the road's service was viewed as a distinct possibility by the commission. After setting forth the facts showing how the road has been engulfed in operating deficits, the commission's opinion asked: "How long can such a situation continue? The Pennsylvania owns all the stock of the Long Island. It has had no dividends on the stock since 1933. There is no legal reason which can compel it to keep on furnishing money to the Long Island . . . Apparently the board of directors of the Pennsylvania Railroad is seriously considering putting the company into receivership . . . If receivership comes, it is obvious that the receivers or trustees will need the same financial relief, or even more, in the way of increased fares to operate this railroad."

"A public impression exists that the Pennsylvania has been draining off the resources of the Long Island and is having the better of certain joint arrangements with it," the opinion continued. "There appears to be little basis for this impression. Possibly years ago there may have been some justification for these views; but it does not seem to exist now." Recently, the opinion said, the Long Island has taken on new life. New management has been brought in to live on Long Island to manage the road. Improvement in service and better morale among the employees have become noticeable.

The commission's opinion was based on a report submitted by Commissioner George A. Arkwright, who presided at hearings on the Long Island's request for a fare increase.

## C.A.B. Acts to End Losses of Air Lines

### Program includes mail-pay increases and economy studies

Various actions launching a 1949 program designed to bring about "the complete return by the air transport industry to a sound and profitable condition" were announced by the Civil Aeronautics Board on February 21. They include mail-pay increases with retroactive features contemplating lump-sum awards totaling \$7,808,000 to seven air lines, and several investigations of the economy and efficiency of air line operations, possible sources of additional revenues and the pattern of competitive air routes.

The board's program was set out in

## LABOR SECRETARY FLAYS FEATHERBEDDING UNIONS

*Maurice J. Tobin, secretary of labor, on March 1 advised the railroads to resist steadfastly any union attempts to force them to accept featherbedding, even at the cost of a strike. This was the theme of an article quoting Mr. Tobin, written by L. Edgar Prina of the New York Sun, and reprinted below by permission of that newspaper.*

Tobin, in an exclusive interview with the New York Sun, hastened to add that he wasn't trying to judge the current battle in which the Brotherhood of Locomotive Engineers and the Brotherhood of Firemen and Enginemen are demanding that the carriers hire an additional engineer and fireman on Diesel locomotives.

But, the secretary said, if the railroads believe an attempt is being made to write featherbedding—unnecessary jobs—into the contract, they should stick by their guns regardless of a strike threat.

Tobin said he felt there wouldn't be a walkout, but indicated he would not be especially worried if one took place. Expressing a firm belief that strikes are many times healthy and settle a lot of things, President Truman's number one labor adviser asserted that there hasn't

been a real railroad strike in twenty-six years.

"You've got to have strikes every once in a while," he declared.

When asked if he didn't think a rail stoppage would threaten to disrupt our economic life, Tobin said he wasn't convinced it would, and suggested that Canadian carriers could fill the breach to a certain extent and haul a percentage of our freight. Other facilities, such as ships and trucks, also could help the nation get by the strike period, he held.

"If a strike does take place I don't think it will last very long. There are lessons to be learned in a strike. It pinches the worker and the company loses profits," Tobin explained. . . .

The handsome, 47-year-old cabinet officer was frank and straightforward in his answers to all questions. And on the general subject of featherbedding he was emphatic. Pounding his fist into the palm of his other hand, he declared:

"Of course, featherbedding is morally wrong. But it is managements' responsibility. If they are foolish enough to give their money away that's their business. . . ."

an 18-page statement of policy which got under way with a reference to the Civil Aeronautics Act's declaration of policy, which, among other specifications, calls for the fostering of sound economic conditions in air transportation. The board said it interpreted the latter as imposing upon it "an obligation to foster the economic soundness of the individual carriers comprising the United States civil air transportation system."

The lump-sum payments contemplated in the mail-pay actions, would go to the following air lines: American, \$233,000; United, \$2,902,000; T.W.A., \$2,748,000; Northwest, \$1,134,000; National, \$337,000; Northeast, \$305,000; Challenger, \$149,000. These include reimbursements for costs of grounding planes ordered out of service by the board, a new policy which the board explained in this way: "We believe these costs are developmental in nature. We had previously felt that grounding costs would not be of such magnitude as to require special mail-pay allowance for their reimbursement. Experience has not supported this view. It now appears that, unless steps are taken, and announced, to specifically absorb such costs by the government, the progress of modernizing carrier fleets may be seriously impeded." Meanwhile, the board "is not prepared at this time to consider the question of whether losses incurred by carriers as a result of a strike will be allowed for [mail] rate-making purposes."

The inquiries into the "economy and efficiency" of air line operations will in-

clude an investigation of reasons for differences in mail-pay requirements among the so-called "big-four"—American, Eastern, United, and T.W.A. The board will undertake to determine "to what extent, if any, these differences may be occasioned by uneconomical and inefficient management," and explore "remedial action" to be taken by the board or the carriers "to eliminate or decrease dependence upon the government for 'need' mail payments." Another economy-and-efficiency investigation will be an inquiry to determine "the feasibility of additional joint-use, by the certificated trunk-line air carriers, of ground and other facilities," and the extent to which additional joint arrangements would reduce the dependence of the carriers on mail-pay support.

The investigations of the pattern of competitive air routes will include the expansion of an existing inquiry into the situation of Western Airlines, a similar inquiry into Northeast's situation, and studies of the competitive conditions on routes between Detroit, Mich., and New York, Detroit and Washington, D. C., Chicago and Washington, and Washington and the Twin Cities, Minn. Additional orders dealing with other "trouble areas in the route pattern" may be expected during the course of the year, the board also said.

### Air Freight and Coach Service

Another of the February 21 orders instituted an investigation to determine



whether the board should prescribe class rates for the transportation of freight by air. Meanwhile, the statement announced that the board would issue a decision "within approximately 30 days" in the so-called Air Freight case wherein several air lines are seeking certificates for the conduct of all-freight operations.

Also, the board "will set down for early hearing certain applications for certificates . . . to conduct transcontinental coach service"; and it intends to "watch carefully" the results achieved by Western under a tariff which provides that no meals will be served aloft. On the matter of financing, the statement expressed the board's belief that, "at least for an interim period," the Reconstruction Finance Corporation "can be of substantial assistance" by making loans to the air lines for purposes of providing working capital and new equipment, and by participating in "voluntary financial reorganizations" involving refunding of indebtedness or other adjustments of capital structures. Recent conversations between representatives of the R.F.C. and the board indicate that the lending agency is disposed to cooperate, the statement also said.

Previously it had noted that only 8 of the 16 certificated domestic air lines reported an operating profit on their 1948 domestic operations. Those lines were: Braniff, Chicago & Southern, Continental, Delta, Inland, Colonial, Eastern, and Capitol.

## Young Hits Subsidies, Inadequate Rail Rates

### F.R.P. chairman sees "starved" railroads leading "depression"

Robert R. Young, chairman of the Federation for Railway Progress, thinks, the country is headed into a "depression" which the railroads "are leading" because they have been "starved to death" as a result of subsidized competition and inadequate rate increases. Mr. Young, who is also chairman of the board of the Chesapeake & Ohio, made his statement at a March 1 press conference in Washington, D. C., where he also participated with Allan P. Kirby, president of the Alleghany Corporation, in the formal opening of the federation's new headquarters.

Mr. Young's appearance in Washington was on the same day that the Interstate Commerce Commission began hearings on the railroads' Ex Parte 168 application for additional freight-rate increases. His responses to reporters' questions included attacks on the I.C.C. for keeping the railroads on a "starvation" diet of rates and on "selfish shippers and bureaucrats" for opposing higher rates.

### RALPH BUDD, BURLINGTON CHIEF, PLANS TO RETIRE SEPTEMBER 1

The dean of railroad presidents, Ralph Budd, head of the Burlington Lines for the past 16 years, this week revealed his intention to retire on September 1. In a statement to the press at Omaha, Neb., on March 2, Mr. Budd said: "Under Burlington rules officers are retired on the first of the month following their 70th birthday. It is a fact that I will be 70 on August 20, 1949, and shall not suggest any exception in my case." He has been a railroad president continuously since 1919, having been elected president of the Great Northern in that year and head of the Burlington in 1932.

Meanwhile references which Mr. Young made to the Association of American Railroads appeared to be conciliatory. He stated that President William T. Faricy of the A.A.R. had been working on the problem of subsidized highway competition, and that Mr. Faricy had informed the federation that the American Automobile Association was now campaigning against the use of the public highway by big trucks. Also, Mr. Young expressed the hope that the A.A.R. would join with the C. & O. in research designed to develop more modern and economical passenger equipment. At another point, he said that the federation's way of working with the railroads generally would have to be through cooperation. He explained that he had never expected railroads, other than the three present members (C. & O., Nickel Plate and Wheeling & Lake Erie) to join the federation—although "the door is open to all railroads."

### Age of Passenger Cars

The brief statement with which Mr. Young opened his press conference dealt first with the age of passenger cars. He calculated that it would take 60 years to "modernize the fleet" at the rate cars were ordered in 1948, and 200 years at the rate they are expected to be ordered this year. Later on, in response to questions, the C. & O. chairman said that "unless something is done" about reducing the cost of passenger equipment and passenger service, and ending subsidized competition, the railroads would be out of the passenger business within a few years.

While the present deficits from passenger operations continue, he asserted, railroad managements would be "criminally negligent" if they ordered many passenger cars which cost "\$150,000 a piece—four times as much per pound as an automobile which provides its own power plant." As to passenger rates, Mr. Young did not think they could be further increased so long as buses operate without adequate payments for the use of public highways and sub-

sidies are given to the air lines. Mr. Young's prepared statement had summarized his views as follows:

"Just when our Pullmans and day coaches may be most needed for troop movement, for civilian evacuation, they are most ready to fall apart. Just when unemployment is increasing, railroad buying has stopped. Soon the far-reaching effects of railroad poverty will be felt even in the steel industry.

### Situation is "Deplorable"

"This deplorable situation is full upon us simply because it has advantaged certain members of Congress to freely subsidize, out of the public treasury, the railroads' competitors . . . while the railroads, the guts of our transportation, are held to a fraction of their increased costs. The railroads are required to wait for years for a rate increase when the air lines were granted one in three days. Indeed, the Civil Aeronautics Board only last Friday was quick to repair the deficits of the air lines, because the C.A.B., unlike the I.C.C., is conscious of the need for transportation in the national defense.

"Although rail wages have risen 112 per cent since the low point in 1933, with more to come, freight rates have risen far less than half as much. That most railroad rates have been raised all that the traffic can bear because of truck competition is not true. Not more than a third of railroad freight is susceptible of truck diversion. And if it were true that railroads cannot get a living wage because of truck competition, it would but furnish the stronger reason why our politicians should right this unfair competition through the levy of tolls upon the ever-increasing weight of buses, trucks and trailers under

### BOARD "AIMS TO PLEASE"

On February 28 George E. Leighty, representing the 16 non-operating brotherhoods, issued a statement to the press reading as follows: "Members of the former emergency board acting as mediators in the dispute between the non-operating employees and the carriers have issued an interpretation of their recommendations on the five-day week which sustains the position of the employees. Peaceful settlement of this dispute depends on the acceptance by the carriers of this interpretation."

Later on the same day the following statement was issued by the chairmen of the railroads' regional conference committees: "Members of the fact-finding board in the dispute between the non-operating employees and the railroads, acting at the joint request of the carriers and the unions, have issued an interpretation of their recommendations on the five-day week which sustains the position of the carriers. A peaceful settlement of this dispute depends upon the acceptance by the unions of the report and interpretations."

which our costly highways are fast crumbling. Why should you and I be taxed, and our railroads ruined, just so our congressmen may logroll an airport or a four-lane highway against a deep-water harbor, say in Arizona?"

As to the diversion of traffic, Mr. Young charged later on that the I.C.C. uses truck competition as "an excuse" for not granting rate increases sought by railroads. Moreover, he added, the commission so delays the increases it does approve that the railroads are "constantly starved to death." At this point Mr. Kirby interjected the only comment which he made during the press conference. He observed that the railroads are usually confronted with new wage demands before they obtain rate increases to offset previous wage awards.

Asked if he were going to testify before the I.C.C. at the Ex Parte 168 rate-increase hearings, Mr. Young said he hadn't planned to do so. He added, however, that it looked as though "some one" ought to make the commission realize the national-defense aspects of the railroad situation. Later on, he said it was "high time" for Congress to "spank the I.C.C." and insist that the Interstate Commerce Act's declaration of policy be implemented.

### Radio on the Santa Fe

The Atchison, Topeka & Santa Fe has completed installation of two-way radio telephone equipment on 25 Diesel-electric locomotives and 11 cabooses for use on an operating district of 141 mi. over the Tehachapi mountains between Barstow, Cal., and Bakersfield. This is the first operating district on the Santa Fe to be completely equipped with road radio for all regular freight train service. The radio-equipped locomotives run also over other portions of the Santa Fe Coast Lines, and 23 additional cabooses assigned to some of those districts are now being equipped with radio apparatus.

The Santa Fe already has radio telephone in use in yards at Los Angeles, San Francisco and several other points, and the Santa Fe tug fleet at San Francisco also is radio equipped. Work is now progressing on installation of two-way radio communication in all switch engines in the Richmond, Cal., and San Bernardino yards, a project which is expected to be completed this month.

### Railroad Fair Movies Available

Two sound color 16-mm. motion pictures, suitable for showing before schools, clubs and other groups, are now available on the 1948 Chicago Railroad Fair.

"The Chicago Railroad Fair" is a general over-all picture of the fair, running about 11 minutes. Prints may be ordered from the Association of American Railroads at \$61.60 each.

"Wheels A'Rolling" deals exclusively

with the pageant of that name, and presents, in approximately 28 minutes, substantially the entire story of the pageant. Prints may be ordered from Major Lenox Lohr, president, Chicago Railroad Fair Association, Museum of Science and Industry, Jackson Park, Chicago, at a cost of approximately \$160 per print.

A combined print of the two pictures, with duplications eliminated, to run about 36 minutes, may be ordered through the A. A. R. at a cost of approximately \$215 per print.

Each print will carry a trailer advertising the 1949 fair; supplementary lead titles and trailers advertising individual railroads can be added for a small additional cost.

### Plan "Soil Mechanics" Course

If a minimum of 10 students register, special non-credit lectures on "Soil Mechanics" are scheduled to begin the week of March 28 at Northwestern University, Evanston, Ill. The course, to be given by the civil engineering department of the Technological Institute, will end the week of May 30. Sessions of two hours each are to be held evenings or Saturday mornings, depending on the convenience of the majority of students.

In addition to a review of fundamentals and brief laboratory exercises, the course will cover seepage, settlements, shear strengths of soils and stability of slopes. Interested persons should write the department of civil engineering, Technological Institute, Evanston, for application blanks. The fee will be \$20.

### Join Security Board's Transport and Storage Staff

Colonel Merle J. Reynolds has been appointed director of the Plans Division of the National Security Resources Board's Office of Transport and Storage, and Dr. Richard H. Rush has been appointed consultant on air transportation, airports, and fixed-base operations. Both will serve under Captain Granville Conway, director of the office.

Colonel Reynolds was formerly chief of railway operations on the Berlin staff of General Lucius Clay. Dr. Rush is now director of the Aircraft Division in the Security Board's Office of Production, and he will continue in that position.

### Canadian Rate Hearings Adjourned to March 28

Hearings on the application of Canadian railroads for a 20 per cent increase in freight rates were adjourned last week until March 28, when the Board of Transport Commissioners will hear final argument, expected to last seven days, for and against the proposed increase.

The hearings, which began January 11, and have since continued intermittently, were concluded by a three-day presentation by the seven provinces — all except Ontario and Quebec — which are opposing the increase.

### Erie Announces \$3,300,000 Improvement Plan for 1949

The Erie has announced a 1949 program of service improvements, including Dieselization of 63 main line commuter and local trains between Jersey City, N. J., and Port Jervis, N. Y., that will cost \$3,300,000. Also included in the program are cooling system improvements in commuter coaches, redecorating interiors and reupholstering seats in 144 coaches, modernizing facilities for faster ticket service at Jersey City, installing an automatic car-washing machine, and construction of Diesel locomotive maintenance facilities at Jersey City. Further studies are in progress on the advisability of Dieselizing other commuter trains, including those on branch lines.

### Engineers' and Firemen's Emergency Boards Recess

The fact-finding board which has been hearing the dispute between the carriers and the Brotherhood of Locomotive Engineers in connection with the manning of Diesel locomotives recessed after the February 24 hearing. Meetings will be resumed on March 14. The recess was agreed upon by both parties, and the extra time is available because of a 45-day extension granted by the President for the filing of the board's report and recommendations.

The emergency board created to investigate the dispute between the carriers and the Brotherhood of Locomotive Firemen & Enginemen (see *Railway Age* of February 19, page 55), opened hearings at Chicago on February 23, but recessed the same day. While this board is separate from that which is concurrently hearing the engineers' case for an additional man on Diesel locomotives, its membership is identical. During the brief session Chairman Taylor stated that it was apparent that the board could not report its findings within the 30 days specified in the executive order which had created it, and suggested that hearings be recessed until June 27 and that a request be made of the President to give the board until August 15 to make its report. Counsel for the carriers and the union agreed.

Meanwhile, negotiations on the demands of the 16 non-operating unions continued at Chicago with the assistance of the three-man emergency board—headed by Dr. W. M. Leiserson—in an attempt to effect a settlement on the board's recommendations that a seven-cent hourly wage increase be made effective retroactive to October 1, 1948, and that a 40-hour work week—with no cut in pay—be made effective Sep-



tember 1, 1949. The carriers announced publicly on February 25 that they were agreeable to a settlement based on the board's recommendations, and disclosed that they had advised the union negotiators as long ago as January 18 that they would make a settlement on that basis.

### T. A. A. Opens Washington Office

Clarence F. Lea, whose appointment as director of governmental relations for the Transportation Association of America was reported in the *Railway Age* of January 22, has established his office in the Ring building, 1200 18th st., N. W., Washington, D. C. Dr. John H. Frederick, professor of transportation at the University of Maryland, who will serve as consultant for the association, will share the office on a part-time basis. Dr. Frederick was for more than two years consultant to the House Committee on Interstate and Foreign Commerce in its transportation inquiry.

### Illinois Central Gets All-Electric Diner

The Illinois Central has just received from its Burnside (Chicago) shops the first all-electric dining car constructed for any American railroad. Designed jointly by the I. C. mechanical and dining service departments in collaboration with the General Electric Company, the diner has a self-contained power plant developing approximately 50,000 watts, the equivalent of the power output of a major radio broadcasting station.

Innovations in the compact galley-type kitchen include heavy-duty electric ranges, automatic broilers, bake ovens, automatic deep-fry kettles, a garbage disposal system, electric dishwash-

er and automatic griddles and coffee-makers, as well as the latest developments in near zero freezing units and refrigerators. The new diner also utilizes the latest lighting and temperature control appliances.

After suitable break-in runs, it is planned to put the car on public display at Chicago on March 7; New Orleans, La., March 8; Jackson, Miss., March 9; Memphis, Tenn., March 10, and Springfield, Ill., and St. Louis, Mo., March 11. Its first regular use will be in streamliner service between Chicago and St. Louis.

### Will Hear Argument on Post Office Request for Express Data

The Interstate Commerce Commission will hear oral argument April 26 at Washington, D. C., on the Post Office Department's request for information which would enable the department to exercise what it asserts to be its legal right and duty to fix rates for rail transportation of non-first-class mail at parity with express privilege payments received by the railroads from the Railway Express Agency. The request was filed by Arne C. Wiprud, former member of the Department of Justice's anti-trust staff, who is associated solicitor for the Post Office Department in the pending proceeding wherein the railroads are seeking increased mail pay.

Mr. Wiprud relies on a provision of the 1916 Railway Mail Pay Act which stipulates that the Postmaster General "shall, from time to time," request information from the commission as to the revenue received by railroads "from express companies for services rendered in the transportation of express matter"; that he "may, in his discretion, arrange for the transportation of mail matter other than of first class at rates not exceeding those ascertained and re-

ported to him"; and that "it shall be the duty of the railroad companies to carry such mail matter at such rates fixed by the Postmaster General." The railroads contend that this provision of the law has been rendered obsolete by transfer of the express business from the former private companies to the "railroads themselves" for handling by "their common agent," R.E.A. (see *Railway Age* of November 6, 1948, page 58, and December 4, 1948, page 62).

The proceeding has been docketed as No. 30177—separate from the mail-pay case, which is No. 9200.

### F. R. P. Honors Santa Fe

The Atchison, Topeka & Santa Fe was honored by the Federation for Railway Progress at the federation's second anniversary dinner in New York on March 2 as the railroad which made the outstanding contribution to passenger service during 1948.

Other awards presented at the dinner went to Drew Pearson, columnist and radio commentator, for his origination of the "Friendship Train," and to Robert P. Vanderpoel, financial editor of the Chicago Herald-American, for "outstanding service to the cause of progressive railroading by his clear, concise, accurate and informed reporting."

Warren E. Walsh, Pennsylvania conductor, was the recipient of the federation's 1948 employees' award.

### New Haven Operates First "Theater Special"

The New York, New Haven & Hartford operated its first New Haven, Conn.-New York "theater special" on March 1. Approximately 300 persons, most of whom had purchased through the railroad tickets to the Theater Guild's "Silver Whistle," rode the train, on which the regular round-trip fare had been cut by 25 per cent. The train, consisting of six coaches and two grill cars, left New Haven at 5:35 p.m. and started the return trip from Grand Central Terminal at 11:45 p.m. Another "theater special" is expected to be run in about one month.

### \$60,000,000 Jersey City Ship-Rail Terminal Proposed

A proposal to develop through private financing at a cost of about \$60,000,000 a railroad and ship terminal on certain waterfront property owned by Jersey City, N. J., was presented to that city's mayor and board of commissioners on March 1. The proposal, submitted by the Foundation Company, New York, contemplates the building of two marine terminals, 1,500 ft. long and 670 ft. wide, each of which would berth six ships. The terminals would have railroad connections and unloading facilities, with double tracks on each apron, and unloading platforms to



The stainless steel kitchen in the Illinois Central's all-electric dining car



service 300 carloads of freight daily. In addition to facilities for handling cars that can be switched to the terminals, the structures would have two floating bridges to accommodate car deliveries by car float wherever switching facilities are not available.

It was proposed that one terminal be constructed immediately and improvement of the area back of the waterfront be completed for industrial occupancy and that the second terminal be constructed following completion of the first unit.

Development of the first industrial site and construction of the first terminal would cost an estimated \$35,000,000.

"We desire to enter into a lease with the city for the improvement of this property with private funds," the proposal said in part. "We will obtain the necessary consents of railroads and adjacent property owners to cooperate in the development of the project. We will prepare the necessary designs and plans and will construct rail and ship terminals, with all essential utilities such as highways, roads, water and sewers, both for the operation of rail and ship terminal units and for the development of adjacent industrial properties on the lands to be leased to us by the city."

### Freight Car Loadings

Loadings of revenue freight in the week ended February 26, which included the Washington's Birthday holiday, totaled 688,128 cars, the Association of American Railroads announced on March 3. This was a decrease of

9,207 cars, or 1.3 percent, under the preceding week; a decline of 102,782 cars, or 13.0 per cent, under the corresponding week last year, which also included a holiday; and a drop of 161,863 cars, or 19.0 per cent, under the equivalent 1947 week, which did not include a holiday.

Loadings of revenue freight for the week ended February 19 totaled 697,335 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings			
For the week ended Saturday, February 19			
District	1949	1948	1947
Eastern .....	134,568	152,895	147,752
Allegheny .....	150,551	169,337	165,749
Pocahontas .....	56,381	69,407	65,328
Southern .....	122,912	140,306	133,411
Northwestern ..	71,578	83,467	83,439
Central Western	104,140	123,808	122,253
Southwestern ..	57,205	65,717	58,757
Total Western Districts ....	232,923	272,992	264,449
Total All Roads	697,335	804,937	776,689
Commodities:			
Grain and grain products .....	37,812	35,186	49,050
Livestock .....	7,641	8,338	12,299
Coal .....	147,860	192,485	182,420
Coke .....	16,168	15,303	14,203
Forest products ..	35,106	46,207	46,256
Ore .....	13,969	13,452	12,636
Merchandise i.e.l.	94,676	113,801	109,926
Miscellaneous ..	344,103	380,165	349,899
February 19 ..	697,335	804,937	776,689
February 12 ..	699,442	733,670	799,977
February 5 ..	682,143	746,936	767,301
January 29 ..	679,255	726,345	835,051
January 22 ..	709,585	771,139	821,928
Cumulative total 7 weeks ..	4,922,539	5,422,345	5,659,959

In Canada.—Car loadings for the week ended February 19 totaled 70,358 cars, as compared with 71,945 cars for the previous week, and 68,817 cars for the

corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 19, 1949	70,358	32,687
February 21, 1948	68,817	37,986
Cumulative totals for Canada:		
February 19, 1949	500,714	226,433
February 21, 1948	504,750	245,215

### Pacific Electric to Make Major Changes in Passenger Services

A major modernization program calling for expenditure of \$4,500,000 to eliminate losses from passenger operations, without increasing fares, and provide improved service, in and around Los Angeles, Cal., is contained in an application filed on February 28 by the Pacific Electric with the California Public Utilities Commission. Setting forth that rail passenger operations were conducted at a net loss of \$3,426,189 during 1947 and that, although fare increases became effective February 1, 1948, the year 1948 showed an operating loss of \$2,300,000, the application points out that major changes are essential.

The modernization plan is the result of intensive studies conducted during the past year, according to O. A. Smith, president of P. E. Outmoded rail passenger equipment, including all wooden body cars, would be replaced with modern motor coaches, with certain street car lines being continued with one-man operation, together with some reroutings and other changes in operation, divided into three districts, Northern, Southern and Western.

A freight connection is to be con-

Below, left—One of the new Master Rooms on the Pennsylvania's "Broadway Limited" between New York and Chicago. Lounge chairs are folded at night and concealed beneath the two beds, which open out of the wall. A private bath, with shower; individual radio; wardrobe closets, and passenger-controlled air conditioning are other features.



Right—Sleeping cars now going into service on principal Pennsylvania overnight trains have enclosed lavatory facilities in all rooms occupied by more than one person.



structed between Azusa and Baldwin Park, which will allow discontinuance of freight operation on Huntington drive between Arcadia and Los Angeles.

Rail service would be continued from Subway terminal via Hollywood boulevard to Beverly Hills; also between Subway terminal and Glendale-Burbank, but all rail service on Hill and Main streets in downtown Los Angeles would be discontinued. The petition states that further study will be made of system motor coach lines to bring about further improvements in service and efficiency of operation.

### Freight-Train Performance Records Established in 1948

American railroads carried more tons of freight per train in 1948 than ever before and with an increase in average speed, according to the Association of American Railroads. At the same time, a new high record was established in freight-train performance per hour.

The average load of freight per train in 1948 was 1,176 tons, 30 tons above the previous high record established in 1947, when the average was 1,146 tons. It also was an increase of 37 tons above that in 1944, the peak war year. In 1929, the average was only 804 tons. The average speed of freight trains in 1948, as the A.A.R. put it, "was slightly higher than in any of the preceding six years and was nearly 23 per cent higher than in 1929."

Tons of freight moved one mile for each hour of freight train operation averaged 18,779 in 1948, compared with the previous high of 18,126 ton-miles in 1947 and 10,580 in 1929. The performance in 1948 was greater by 6.6 per cent than the wartime record of 17,623 ton-miles per hour attained in 1944.

"Railroads were able to attain this record performance because of improved operating methods, larger and more efficient locomotives, better freight cars, improved signaling and other devices, and heavier loading of freight cars," the A.A.R. said.

Additional General News appears on pages 80 and 82.

## SUPPLY TRADE

E. A. Warner, formerly assistant district manager of the New York office of the **Union Switch & Signal Co.**, has been appointed district manager of that office. Mr. Warner was born in Fargo, N. D., on December 17, 1888, and was graduated from Lehigh University in 1910 with a degree in electrical engineering. In 1908-1909 he was employed by the Consolidated Gas & Electric

Light & Power Co., Baltimore, Md., on power plant and sub-station construction work. He joined the signal department of the Pennsylvania in 1910 as a signal apprentice and worked west of Pittsburgh, Pa., on the West Jersey and Seashore division, the Maryland division, and in the Philadelphia, Pa., general offices. In 1913 he was promoted to assistant inspector of signals with headquarters in Philadelphia and, in 1915, was promoted to branch line assistant supervisor of signals with the same headquarters. He became junior signal



E. A. Warner

engineer with the Interstate Commerce Commission, Division of Valuation, in 1916.

Mr. Warner joined the commercial department of Union Switch & Signal in 1917. In the same year, he was commissioned captain in the United States Army, serving overseas as regimental adjutant, 103rd Engineers, 28th Division, until 1919, when he returned to the company. In 1920 he entered the sales department and, in 1930, was appointed office manager of the New York office, holding that position until his appointment as assistant district manager in 1937.

Russell J. Skinner, office manager of the **United States Steel Supply Company** (subsidiary of U. S. Steel Corporation) at St. Louis, Mo., has been advanced to assistant district manager at that point.

Harry S. Hagan, acting manager of the Butler (Pa.) freight car plant of the **Pullman-Standard Car Manufacturing Company**, has been appointed manager of that plant.

The **Caterpillar Tractor Company**, Peoria, Ill., has begun construction of a new \$150,000 parts depot at Indianapolis, Ind., to facilitate parts shipments to Caterpillar dealers and customers. Parts will be stocked for the firm's Diesel track-type and wheel-type tractors, Diesel engines, Diesel motor graders and earthmoving equipment. The new facility is Caterpillar's eighth parts depot, and will serve the states of Indiana,

Illinois, Wisconsin, Michigan, Iowa, Missouri, Kentucky, Ohio, Tennessee, Pennsylvania, West Virginia, Virginia and Maryland, and the Canadian provinces of Ontario and Quebec.

M. S. Downes, assistant general sales manager of the railway division of the **Timken Roller Bearing Company** for the past 20 years, has been appointed general sales manager of the division to succeed the late W. C. Sanders, whose death was reported in *Railway Age* of February 19. J. E. McCort, formerly district manager of the railway sales division in Cleveland, Ohio, has been appointed assistant general sales manager of the railway division to succeed Mr. Downes. The company also has announced the appointment of Ralph G. Harmon, formerly a sales engineer in the Chicago office, as district manager of the industrial and steel and tube divisions in Birmingham, Ala.

R. L. Coward has been appointed manager of the Graybar-Bristol branch of the **Graybar Electric Company**. Mr. Coward joined Graybar in 1936 as a city counter salesman at the Knoxville, Tenn., branch, and, a few years later, was appointed sales representative working out of that location.

J. E. Nelson, division sales manager in national sales for the **Cherry Rivet Company**, has been appointed general sales manager. Mr. Nelson's appointment is concurrent with the company's national distribution of its line of blind rivets and tools. Before he joined Cherry Rivet in 1948, Mr. Nelson was with Manning, Maxwell & Moore for seven years.

G-V Controls, Inc., 28 Hollywood plaza, East Orange, N. J., has been organized to engage in development and manufacture of electrical control equipment. C. D. Geer, formerly vice-president of Thomas A. Edison, Inc., West Orange, N. J., is president of the new company.

Stephen V. Gilligan has been appointed director of industrial relations of **Goodall-Sanford, Inc.**, at Sanford, Me. Mr. Gilligan formerly was with the B. F. Goodrich Company and the American Woolen Company.

J. B. Crawford, formerly plant manager at the Cicero, Ill., plant of the **Union Asbestos & Rubber Co.**, recently was appointed plant manager of the firm's new plant at McGregor, Tex.

M. W. Smith, president of the **Whitcomb Locomotive Company**, has announced the resignation of Roland C. Disney, vice-president and general manager, effective March 15. The appointment of Charles K. Olson as general manager to succeed Mr. Disney also was announced.

Kennametal, Inc., Latrobe, Pa., has announced the removal of its New York office to 11 West 42nd street, with L. D.



Morton as acting manager, assisted by Gerald O. Bogner, John A. Storrs and J. G. Brady. The company also has announced the appointment of C. Russell Miller as a service engineer working out of the Cincinnati, Ohio, office; Henry B. Worthington, as a sales engineer working out of the Springfield, Mass., office; and Thomas J. Kniff, Jr., as an application engineer working out of the Philadelphia, Pa., office.

L. F. Munson, sales representative in the railroad department of Fairbanks, Morse & Co., since 1940, has been appointed locomotive sales representative, with headquarters at St. Paul, Minn.



L. F. Munson

Mr. Munson has been associated with the firm since 1928, when he started as a scale erector in the company's St. Paul branch.

## OBITUARY

Arthur J. Boase, late manager of the structural and Railways Bureau, Portland Cement Association, with headquarters at Chicago, whose death was reported in the *Railway Age* of February 19, graduated from the University of Colorado in civil engineering and received a master's degree from the University of Pennsylvania. Mr. Boase, who was an internationally known authority in the field of reinforced concrete design, spent his entire professional career in structural design work. After completing his college education, he designed dams and tunnels in the Rocky Mountain region for eight years, principally for the Boston Colorado Power Company. During the next three years, he acted as manager of the Fair Engineering Company at Denver, Colo., in which capacity he worked on design and construction of reinforced concrete bridges. After serving for a time on the staff of the civil engineering department at the University of Pennsylvania, he became a professor of civil engineering and head of a similar department at Pennsylvania Military College. In 1930 he joined the Portland Cement Association as regional structural engineer for

the Philadelphia (Pa.) district, and subsequently traveled extensively for the association in Europe, where he studied European practice in reinforced concrete design. In 1944 he was appointed a member of the executive committee, Structural Division, American Society of Civil Engineers, and was later advanced to chairman of this committee. In 1947 Mr. Boase became a member of the board of directors of the American Concrete Institute, and for the past 16 years had served as manager, Structural and Railways Bureau, Portland Cement Association.

Thomas W. Delanty, president of the Chicago Steel Structures Company and vice-president of the Apex Railway Products Company, died on February 26. He was 57 years old.

## ORGANIZATIONS

The Miami Valley Traffic Club, at its recent 27th anniversary dinner in Dayton, Ohio, elected the following officers: President, F. W. Fischer, division freight agent, Erie; first vice-president, L. E. Huffman, traffic manager, West Carrollton (Ohio) Parchment Company; second vice-president, E. Simon, traveling freight agent, New York Central; secretary, G. C. Stoecklein, chief clerk to division superintendent, Baltimore & Ohio, and treasurer, J. O. Faris, traffic manager, Moraine Products Division, General Motors Corporation.

The Northern Indiana Chapter, Railway & Locomotive Historical Society, will meet at 7:30 p.m. on March 8, in the East room of the Union Station at South Bend, Ind. E. E. Kester, manager of passenger traffic of the Illinois Terminal, will discuss new equipment on the I.T. and give a historical review of the railroad. The April 12 meeting of the organization will hear P. T. McKinney, general publicity department, Union Carbide & Carbon Co., on the subject 300 Years of Rail. His talk will be illustrated with 70 lantern slides.

G. Murray Campbell, vice-president and executive representative of the Baltimore & Ohio, will speak on the Newfoundland Railway at the March 11 meeting of the Railway & Locomotive Historical Society, to be held at 7:30 p.m. at 84 East Randolph street, Chicago.

The Pacific Northwest Advisory Board will hold its twenty-second annual meeting on March 25, at the Portland Hotel, Portland, Ore.

The speaker for the March 8 dinner meeting of the Women's Traffic Club of New York, Inc., will be John H. Faunce, president of John H. Faunce, Inc., who

will speak on "The Shipping Agent—The Key to Proper Documentation." The dinner will be held in the Park Sheraton Hotel, 55th street and Seventh avenue, New York, at 6:30 p.m.

The March 17 meeting of the New York Railroad Club, designated as "Annual Electrical Night," will be held in the auditorium, Engineering Societies building, 33 West 39th street, New York, at 8 p.m. William A. Reich, of the General Electric Company's Schenectady, N. Y., works laboratory will speak on "A Metallurgist Faces High Stresses and Temperatures," and Dr. Vincent J. Schaefer of G.E.'s research laboratory, will present an illustrated talk on "Scientific Adventures in Mountains and Skies."

The Northwest Locomotive Association will hold its next meeting on March 21, at 8 p.m., in the Midway Club, 1931 University avenue, St. Paul, Minn. "The Elesco Forced Recirculation Steam Generator for Diesel Locomotives" will be the subject of an address by J. F. Griffin, chief engineer, Superheater Division of Combustion Engineering-Superheater, Inc.

## EQUIPMENT AND SUPPLIES

### Domestic Equipment Orders Reported in February

Orders for equipment for domestic use reported in *Railway Age* in February included 30 all-stainless steel suburban cars ordered by the Chicago, Burlington & Quincy from the Budd Company, 50 50-ton gondola cars ordered by the Denver & Rio Grande Western from the Bethlehem Steel Company, and the transfer to the Pacific Car & Foundry Co. by the Western Fruit Express Company of an order for 250 40-ton refrigerator cars originally ordered from the W.F.E.'s own shops. No locomotive orders were reported. The approximate cost of the equipment is \$4,200,000. During the first two months of 1949, *Railway Age* has reported domestic orders for 1,725 freight cars and 30 passenger cars, costing an estimated total of \$10,000,000.

### FREIGHT CARS

The Chicago & North Western has ordered 1,250 40½-ft. steel sheathed 50-ton box cars, 250 of which are to be equipped with auto-loading devices, from the Pullman-Standard Car Manufacturing Company. Authorization to purchase this equipment was reported in the *Railway Age* of February 19, 1949, page 60.



## LOCOMOTIVES

The Chicago & North Western has ordered the following Diesel-electric locomotive units, at a cost of approximately \$9,300,000: 43 1,500-hp. freight units, consisting of 30 "A" and 13 "B" units, from the Electro-Motive Division of General Motors Corporation; five 1,500-hp. road switchers from the Baldwin Locomotive Works; four 1,000-hp. yard switchers from Fairbanks, Morse & Co.; and two 2,000-hp. hump yard switchers from Electro-Motive. Authorization for purchase of this equipment was reported in the *Railway Age* of February 19.

## SIGNALING

The Atchison, Topeka & Santa Fe has ordered from the Union Switch & Signal Co. materials for installation of an electro-pneumatic car retarder system in its classification yard at Pueblo, Colo. The order includes three Model 31 retarders, totaling 449.5 rail ft., 16 direct-acting electro-pneumatic switch layouts with detector track circuits, hump and trimmer signals, control machines, relays, resistors, rectifiers, and housings. The yard will consist of 16 classification tracks with one control tower.

## ABANDONMENTS

Application has been filed with the Interstate Commerce Commission by:

**Atlantic Coast Line.**—To abandon a 37.9-mi line from Sumter, S. C., through Elliott, to Darlington, and a 9.6-mi. branch between Elliott and Bishopville. The application states the line is being operated at a substantial loss and present and prospective traffic is insufficient to justify its continuance.

## CONSTRUCTION

### P. R. R. to Build New Warehouse in Pittsburgh

The third step in the Pennsylvania's improvement program at Pittsburgh, Pa., will be the building of a new warehouse costing over \$4,500,000, to replace Duquesne warehouse, which the P. R. R. has sold to the commonwealth of Pennsylvania. "To make the building of this warehouse possible," J. A. Appleton, vice-president, said, "we have asked the city of Pittsburgh to vacate 13th street, 15th street and Slocum way between Liberty and Penn avenues, and Spring way from 11th to 16th streets. We are hopeful for an early agreement, so that work may be started early this

summer and the warehouse completed within a year." The new warehouse, to consist of a two-story building between 12th and 14th streets and a one-story structure from 14th street to beyond 15th street, will have an area of 320,000 sq. ft., compared with 240,000 sq. ft. in the Duquesne warehouse. The previous step in the road's Pittsburgh modernization program was reported in *Railway Age* of February 5, page 118.

**Baltimore & Ohio.**—This road has begun construction of two bridges in its Baltimore, Md., terminal area; the larger of the two will be on the Curtis Bay branch over the Patapsco river, replacing a bridge built in 1882. It will be 403 ft. long and will consist of five 80-ft. steel plate girder spans. It will be 43 ft. upstream from the older bridge and its approaches will be straightened to permit faster running time. A single-track structure, the Patapsco bridge will cost more than \$400,000 and will be completed in the latter part of 1949. The McLean Contracting Company, Baltimore, is building the substructure and approaches. The contract for structural steel has been awarded to the American Bridge Company, Ambridge, Pa. The contract for the erection of the superstructure has not yet been awarded. A \$300,000 double-track bridge is being built over Aisquith street in northeast Baltimore, on the road's main line, to replace the present bridge which dates from 1894. This bridge, to be completed late in the year, will be 71 ft. long and will be a through plate girder span. The substructure is being built by the Empire Construction Company, Baltimore. The structural steel contract has been awarded to American Bridge, and the contract for the erection of the superstructure has not yet been awarded.

**Louisville & Nashville.**—This road will install facilities for servicing and fueling Diesel switching locomotives at Boyles, Ala., and Montgomery. The project at Boyles — to cost an estimated \$39,662 — will include erection of a 30,000-gal. fuel storage tank, pumping equipment and distribution lines; the partitioning off of half of the present blacksmith shop for a Diesel engine repair shop; and construction of tracks. Work at Montgomery will cost approximately \$28,403, and will include erection of a 20,000-gal. fuel storage tank and preparation of a portion of the roundhouse as a Diesel engine repair shop. Both projects will be completed by company forces. The road will also build 1.91 mi. of spur track to a new mine of the Miners Coal Company at Fries, Ky., with a wye at New Coal, Ky., between Madisonville and Hartford. The L. & N. will also construct jointly with the Illinois Central 2,975 ft. of track at the mine site. The grading is estimated to be 105,500 cu. yd., for which no contract has yet been awarded. The L. & N. estimates its expenditure on the project at \$169,900.

**Minnesota Transfer.**—This company has awarded a contract to the Minneapolis Bridge Company for repair of its Raymond Avenue bridge in St. Paul, Minn. The cost is estimated at \$40,000.

**Norfolk & Western.**—This road has applied to the Interstate Commerce Commission for authority to construct a 9-mi. branch line in Botetourt county, Va., to serve principally a cement plant expected to be constructed in the area.

## FINANCIAL

**Atchison, Topeka & Santa Fe-Chicago, Burlington & Quincy.**—Control of I.N.—These roads have applied to the Interstate Commerce Commission for authority to acquire control of the Illinois Northern from the International Harvester Company. For the I.N.'s 500 shares of \$100-par stock, the two roads would pay \$960,000, plus 3 per cent interest on that amount from August 1, 1948, the date of the purchase agreement. Two-thirds of the stock would be acquired by the Santa Fe and one-third by the Burlington. Those roads would also advance, in the same proportions, \$165,000 to the I.N. to pay off an issue of 24-year, 3 per cent notes held by International. Other provisions of the purchase agreement contemplate purchase by the acquiring roads for \$80,000 of International properties now used by the I.N.; sublease by the I.N. of part of its right-of-way which is leased by International from the Sanitary District of Chicago; and revision of leases and trackage rights under which the I.N. operates over tracks of the acquiring roads.

**Duluth, South Shore & Atlantic-Reorganization.**—Division 4 of the Interstate Commerce Commission has certified that holders of the six classes of securities entitled to vote on the matter have recorded 100 per cent acceptance of the reorganization plan for this road and its subsidiary debtor, the Mineral Range (see *Railway Age* of November 27, 1948, page 50). The plan was approved by the commission on June 19, 1947 and by the federal district court on July 31, 1948.

**Erie.**—Control of Leased Lines.—This road has applied to the Interstate Commerce Commission for authority to acquire, through stock ownership, control of the Goshen & Deckertown and the Montgomery & Erie, both of which it now operates under lease. The application stated that the Erie has the opportunity to purchase from the estate of George A. Murray, of Goshen, N. Y., 6,743 shares of the G. & D. and 5,726 shares of the M. & E. at \$8.50 per share, plus commission. At present, the Erie pays annual rental of \$35,035 and is obligated to pay all taxes and assessments of the lessors. The G. & D. ex-

tends 11.7 miles from a connection with the Erie at Goshen, N. Y., to Pine Island. The M. & E. also connects with the Erie at Goshen and extends 10.4 miles to a connection with the New York Central at Montgomery, N. Y. The application stated that, while the acquisition would not reduce present rentals on the leased lines, it would result in the Erie receiving back in dividends a portion of the rentals; also, it would be a "step toward possible unification." Upon consummation of the proposed transaction, Erie will own 70.8 per cent of the stock of the G. & D. and 77.7 per cent of the stock of the M. & E.

**Union Pacific.**—*New Director.*—Robert A. Lovett, former under-secretary of state, has been elected a director of this road to succeed Newcomb Carlton, resigned.

## New Securities

Applications have been filed with the Interstate Commerce Commission by:

**Southern Pacific.**—To assume liability for \$15,900,000 of series AA equipment trust certificates to finance in part the following equipment:

	Description and builder	Estimated Unit Cost
3	6,000-hp. Diesel-electric freight locomotives, consisting of two 1,500-hp. "lead" units and two 1,500-hp. booster units (Electro-Motive Division, General Motors Corporation) .....	\$665,325
11	6,000-hp. Diesel-electric freight locomotives, consisting of two 1,500-hp. "lead" units and two 1,500-hp. booster units (Electro-Motive) .....	693,285
1	6,000-hp. Diesel-electric passenger locomotive, consisting of two 2,000-hp. "A" units and one 2,000-hp. "B" unit (American Locomotive Company) ....	695,521
6	4,000-hp. Diesel-electric passenger locomotives, consisting of two 2,000-hp. "A" units (American) .....	451,660
5	1,000-hp. Diesel-electric switching locomotives (American) ..	103,761
20	1,000-hp. Diesel-electric switching locomotives (Electro-Motive) ..	104,944
9	1,000-hp. Diesel-electric switching locomotives (Electro-Motive) ..	104,787
350	70-ton steel covered hopper cars (American Car & Foundry Co.) ..	5,771
500	50-ton composite drop-bottom, general service gondola cars with wood sides (General American Transportation Corporation) ..	5,512
600	50-ton steel flat cars with wood floors (A. C. F.) .....	4,171

Total estimated cost of equipment is \$23,867,058. The certificates would be sold on competitive bids, which would specify the interest rate, and determine whether the issue would mature over a 10-year or 15-year period.

**Spokane, Portland & Seattle.**—To assume liability for \$4,500,000 of equipment trust certificates to finance in part equipment expected to cost about \$6,178,800, as follows:

	Description and builder	Estimated Unit Cost
3	6,000-hp. Diesel-electric road freight locomotives, consisting of three 2,000-hp. units (American Locomotive Company) .....	\$672,250
500	50-ton steel-sheathed, wood-lined box cars (Great Northern shops) ..	4,819
100	50-ton steel gondola cars (Pullman-Standard Car Manufacturing Company) .....	6,209
1	diner-parlor car (Pullman-Standard) .....	141,836
1	sleeping car (Pullman-Standard) ..	128,882
2	sleeping-lounge cars (Pullman-Standard) .....	116,966
1	day-night coach (Pullman-Standard) .....	104,287

- 1 dormitory-baggage car (Pullman-Standard) .....
- 5 coaches (Pullman-Standard) ..

The certificates would be dated April 1, would mature in 15 annual installments of \$300,000 each, beginning April 1, 1950, and would be sold on competitive bids, the interest rate to be fixed by such bids.

**Wabash.**—To assume liability for \$9,690,000 of series B equipment trust certificates to finance in part the following equipment:

	Description and builder	Estimated Unit Cost
8	4,500-hp. Diesel-electric freight locomotives, each consisting of three 1,500-hp. units, (Electro-Motive Division, General Motors Corporation) .....	\$483,380
4	4,500-hp. Diesel-electric freight locomotives, each consisting of three 1,500-hp. units, (American Locomotive Company) ....	485,654
3	4,000-hp. Diesel-electric passenger locomotives, each consisting of two 2,000-hp. units, (Electro-Motive) .....	484,624
2	4,000-hp. Diesel-electric passenger locomotives, each consisting of two 2,000-hp. units, (American) .....	453,700
1	2,000-hp. Diesel-electric passenger unit (Electro-Motive) ....	228,206
2	1,000-hp. Diesel-electric switching units (Electro-Motive) ....	103,050
2	1,000-hp. Diesel-electric switching units (American) .....	102,963
2	1,000-hp. Diesel-electric switching units (Fairbanks, Morse & Co.) .....	102,861
3	660-hp. Diesel-electric switching units (Electro-Motive) .....	80,512
1	Stainless steel baggage, lunch counter, lounge car (The Budd Company) .....	188,317
1	Stainless steel dining car (Budd) .....	193,826
1	Stainless steel dome-type, parlor-observation car (Budd) .....	225,477
3	Stainless steel dome-type coaches (Budd) .....	191,187
10	Steel sleeping cars (American Car & Foundry Co.) .....	129,375
4	Steel coaches (A. C. F.) ....	105,225

Total estimated cost of all equipment is \$12,154,249. The certificates would be dated March 1, would mature in 15 annual installments of \$646,000 each, beginning March 1, 1950, and would be sold on competitive bids, the interest rate to be fixed by such bids.

Division 4 of the I.C.C. has authorized:

**Chicago, Indianapolis & Louisville.**—To assume liability for \$4,500,000 of equipment trust certificates to finance in part five Diesel-electric locomotives and 65 freight cars, and to provide funds for retirement of seven conditional-sales agreements executed to finance 599 freight cars, 12 Diesel-electric locomotives and 28 passenger-train cars delivered in 1946 and 1947 (see *Railway Age* of February 12, page 68). The commission stipulated that a \$1,750 premium for prepayment of one of the conditional-sales agreements could not be paid from proceeds of the certificates, and would have to be paid "from funds obtained from some other source." Such a premium, the report said, "does not constitute a part of the cost of the equipment" as represented by unpaid balances on the agreements. The report approved a selling price of 99.1711 for the certificates with a 2½ per cent interest rate—the bid of Salomon Brothers & Hutzler, which will make the average annual interest cost approximately 2.77 per cent. The certificates were reoffered to the public at prices yielding from 1.5 to 2.95 per cent, according to maturity.

**New York, New Haven & Hartford.**—To assume liability for \$2,100,000 of equipment trust certificates, to finance in

part 12 Diesel-electric locomotives and 15 hopper cars (see *Railway Age* of February 12, page 68). The certificates will be dated February 15 and will mature in 15 annual installments of \$140,000 each, beginning February 15, 1950. The commission's report approved a selling price of 98.2254 with a 2¼ per cent interest rate—the bid of Harris, Hall & Co., which will make the average annual interest cost approximately 2.53 per cent. The certificates were reoffered to the public at prices yielding from 1.4 to 2.7 per cent, according to maturity.

**Pennsylvania.**—To assume liability for \$10,005,000 of series W equipment trust certificates, the first installment of a proposed \$19,995,000 issue, the proceeds of which will be applied toward the purchase of equipment estimated to cost \$25,002,000 (see *Railway Age* of February 5, page 118). The certificates will be dated November 1, 1948, and will mature in 15 annual installments of \$667,000 each, beginning November 1. The commission's report approved a selling price of 99.76 for the issue with a 2½ per cent interest rate—the bid of the First Boston Corporation and associates, which will make the average annual interest cost approximately 2.55 per cent. The certificates were reoffered to the public at prices yielding from 1.25 to 2.7 per cent, according to maturity.

## Average Prices Stocks and Bonds

	Mar. 5	Last week	Last year
Average price of 20 representative railway stocks .....	39.33	39.53	46.77
Average price of 20 representative railway bonds .....	87.36	87.94	86.34

## Dividends Declared

**Beech Creek.**—50¢, quarterly, payable April 1 to holders of record March 4.  
**Boston & Albany.**—\$2.00, payable March 31 to holders of record February 28.  
**Chesapeake & Ohio.**—common, 75¢, payable April 1 to holders of record March 11; 3½% convertible preferred, 87½¢, payable May 1 to holders of record April 8.  
**Dayton & Michigan.**—common, 87½¢, semi-annual; 8% preferred, \$1.00, quarterly; both payable April 6 to holders of record March 15.  
**Delaware, Lackawanna & Western.**—25¢, payable April 1 to holders of record March 15.  
**Minneapolis, St. Paul & Sault Ste. Marie.**—\$1.00, payable April 1 to holders of record March 15.  
**Pittsburgh, Bessemer & Lake Erie.**—75¢, semi-annual, payable April 1 to holders of record March 15.  
**Pittsburgh, Ft. Wayne & Chicago.**—common, \$1.75, quarterly, payable April 1 to holders of record March 10; 7% preferred, \$1.75, quarterly, payable April 5 to holders of record March 10.  
**Reading.**—4% 2nd preferred, 50¢, quarterly, payable April 14 to holders of record March 24.  
**Union Pacific.**—common, \$1.25, quarterly; 4% preferred, \$1.00, semi-annual; both payable to holders of record March 7.

# RAILWAY OFFICERS

## EXECUTIVE

**Charles J. Sayles**, whose appointment as executive assistant to the vice-president—traffic of the Wabash, with headquarters at St. Louis, Mo., was reported



in the *Railway Age* of January 15, was born on May 31, 1878, at Mt. Pleasant, Iowa. He entered railroad service on May 30, 1898, as a ticket clerk for the Union Pacific at Council Bluffs, Iowa. In July, 1904, he joined the Wabash as assistant passenger and ticket agent at Omaha, Neb., and in February, 1905, became city passenger agent at Council Bluffs. From June, 1905, to July, 1913, he successively held the positions of city freight and passenger agent at Council Bluffs, contracting agent at



Charles J. Sayles

Omaha, and commercial agent at Hannibal, Mo. He was subsequently appointed chief clerk in the general traffic department at St. Louis, advancing to assistant general freight agent there in March, 1920, and to general freight agent in January, 1928. Mr. Sayles was made freight traffic manager at St. Louis in September, 1936, and was promoted to general freight traffic manager there in March, 1943. He held the latter post until his appointment as executive assistant to the vice-president—traffic.

R. C. Klein, assistant superintendent transportation of the Reading, has been appointed assistant to vice-president, with headquarters as before at Philadelphia, Pa., succeeding W. E. Zelner, assigned to other duties.

Charles S. Sanderson, whose appointment as assistant to president of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of January 15, was born at Houlka, Miss., on October 8, 1901, and received his B.S. in civil engineering from Mississippi State College in 1923. Entering railroad service on June 1, 1923, as rodman in the construction department of the Atlantic Coast Line, he became instrumentman in June, 1924, resident engineer in February, 1925, and division engineer in the maintenance of way department in February, 1930. Mr. Sanderson went with the Charleston & Western Carolina in January, 1933, as roadmaster, becoming assistant superintendent in January, 1939. From July, 1942, to September, 1945, as a lieutenant

colonel, he was staff officer in charge of railway reconstruction and maintenance, Military Railway Service, 703rd Railway Grand Division, serving 34 months overseas in Africa, Italy, France and Germany. He received the Legion of Merit and the French Croix



Charles S. Sanderson

de Guerre, and was discharged as colonel. Mr. Sanderson returned to the Atlantic Coast Line in October, 1945, as principal assistant engineer, becoming assistant chief engineer in April, 1947, and assistant general manager in March, 1948, serving in the latter capacity until his recent promotion to assistant to president.

E. Spencer Miller, whose election as first vice-president of the Maine Central at Portland, Me., was reported in the *Railway Age* of February 5, was born at Springfield, Vt. Mr. Miller was graduated from Dartmouth College in 1931 and from Harvard Law School in 1934. He engaged in general law prac-



E. Spencer Miller

tice in Lowell, Mass., from 1934 until 1937, when he was appointed attorney for the Boston & Maine. The following year he became commerce counsel of the B.&M. and in 1940 was appointed general attorney of the Maine Central, becoming assistant general counsel of

the latter road in 1943, and general counsel in 1946. The following year Mr. Miller was elected vice-president to handle corporate matters and continue as general counsel and head of the law department.

R. B. Ball, whose retirement as vice-president and general manager of the Gulf, Colorado & Santa Fe at Galveston, Tex., was reported in the *Railway Age* of January 15, was born on December 17, 1878, in Randolph County, Mo., and was graduated from Stanford University in 1911 with a degree in engineering. While still a student at Stanford, he was employed by the Santa Fe for about a year in the engineering department and, after graduation, became an instrumentman in the same depart-



R. B. Ball

ment. He subsequently served as division engineer and district engineer, eventually becoming chief engineer of the Coast Lines at Los Angeles, Cal., in which position he supervised track construction in California, Arizona and part of New Mexico. In 1929 he was advanced to assistant chief engineer (system) in charge of maintenance at Chicago, and in July, 1936, was appointed assistant general manager of the Gulf Lines, with headquarters at Galveston. In September, 1939, Mr. Ball was appointed vice-president and general manager.

Gerson Marks, special assistant to vice-president of the New York, New Haven & Hartford at New Haven, Conn., has retired from active service after 32 years with that road. Mr. Marks joined the New Haven in October, 1916, as claim agent, and has served as assistant to general manager and manager of stations and transfers. He was appointed special assistant to vice-president on January 3, 1949.

Alfred D. Wolff, Jr., whose appointment as assistant vice-president of the New York Central system at New York was reported in the *Railway Age* of February 5, was born in 1884 at Tremont, Pa. Mr. Wolff was graduated in 1907



from the University of Pennsylvania, receiving a civil engineering degree in 1910. In that year he entered the service of the New York Central as a draftsman and assistant engineer on the Hudson division. After subsequent



Alfred D. Wolff, Jr.

service as assistant engineer on such projects as the Castleton Bridge cut-off over the Hudson river and the West Side improvements in New York. Mr. Wolff was appointed designing engineer in 1938 and research engineer four years later.

## FINANCIAL LEGAL & ACCOUNTING

Arthur J. Messersmith, whose election as general auditor of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of January 22, first entered the service of the Rock Island in 1906 as a clerk at Chickasha, Okla. In subsequent years he served the road at El Reno, Okla., Fort Worth, Tex., and



Arthur J. Messersmith

Chicago as district auditor, traveling accountant and chief clerk. He was appointed auditor of freight claims in 1928 and promoted to assistant general auditor at Chicago in January, 1948.

Mr. Messersmith held the latter position at the time of his election as general auditor.

L. G. Lind, whose retirement as auditor of disbursements of the Wabash at St. Louis, Mo., was reported in the *Railway Age* of January 22, was born on January 29, 1885, at Hardin, Ill. He studied accounting through the International Correspondence Schools and the Walton School of Commerce, and entered railroad service in February, 1900, as a messenger in the local freight office of the Illinois Central. In May, 1906, he became employed by the Wabash as a clerk in the accounting department at St. Louis, and subsequently held the positions of chief statistician, chief clerk and chief traveling accounting agent. In 1920 he was appointed assistant auditor of disbursements, and in November, 1921, he was promoted to auditor of disbursements at St. Louis.

Albert Weiberg, whose appointment as assistant general auditor of the Chicago, Rock Island & Pacific at Chicago was reported in the *Railway Age* of January 22, was born on August 29, 1897, in that city, where he attended the public schools and night school. He entered Rock Island service on March 27, 1913, as a clerk in the accounting de-



Albert Weiberg

partment at Chicago and became traveling accountant in November, 1924. Mr. Weiberg served as general bookkeeper from March, 1931, to June, 1941, when he was made chief clerk to the general auditor. In January, 1948, he was promoted to assistant to the general auditor, the position he held at the time of his recent appointment as assistant general auditor.

Chris J. Brandau, whose promotion to auditor of disbursements of the Wabash at St. Louis, Mo., was reported in the *Railway Age* of January 22, was born on October 4, 1898, in that city, where he attended St. Louis University School of Commerce and Finance. He first entered railroad service in December, 1913, with the Missouri-Kansas-Texas, and in September, 1917, he joined the

Wabash as a clerk, disbursements and capital expenditures. He served successively as traveling accountant and chief traveling accountant, capital expenditures, from March, 1925, to December, 1928, when he became special accountant to the assistant general auditor. He was advanced to chief clerk to the auditor of disbursements in May, 1937, and to special accountant to the general auditor in January, 1940. Mr. Brandau was chief clerk to the controller from January, 1945, to May, 1947, and was serving as assistant to the auditor at the time of his recent promotion.

Albert W. Krug, district claim agent of the New York Central at Detroit, Mich., has been appointed assistant chief claim agent at Cleveland, Ohio, succeeding Harry G. Pinniger, retired.

Horton H. Hough, assistant general claims adjuster of the Canadian Pacific at Toronto, Ont., has been appointed general claims adjuster at Montreal, Que., succeeding Frank R. Haney, who has retired after 52 years of service with the C. P. R.

Thomas P. Carter, assistant auditor of disbursements of the Southern system, has been appointed auditor of disbursements, with headquarters as before at Washington, D. C., succeeding Frank D. Pollard, who has retired after 48 years of service. James M. Ryan, special traveling auditor, with headquarters at Knoxville, Tenn., has been promoted to assistant auditor of disbursements at Washington, succeeding Mr. Carter. Mr. Pollard was born on October 14, 1880, at Alexandria, Va., and entered the service of the Southern as a clerk in the office of the auditor of disbursements at Washington on March 1, 1901. He was subsequently promoted to head statistical clerk in 1909; to chief clerk in 1913; and to assistant auditor of disbursements in 1916. He was promoted to auditor of disbursements on August 1, 1918.

Robert E. Teston, assistant to the chief executive officer of the Jersey Central Lines at Jersey City, N. J., has been appointed assistant secretary and assistant treasurer, with headquarters at New York.

J. M. Goodwin, assistant general claim agent of the Virginian, has been appointed general claim agent at Norfolk, Va., succeeding M. A. Hartigan, Jr., who has retired. C. S. Kester, attorney at Norfolk, succeeds Mr. Goodwin as assistant general claim agent. Mr. Hartigan was born at Big Rapids, Mich., on March 1, 1875, and attended Hastings (Neb.) College, the University of Nebraska and the Chicago College of Law. Entering railroad service as a clerk in the maintenance of way department of the St. Joseph & Grand Island (now Union Pacific), Mr. Hartigan subsequently

served as chief clerk in that department. After service with the New York Central, he returned to the St. J. & G. I. as assistant superintendent and general claim agent, before going with the Virginian as general claim agent at Norfolk.

**McCulloch B. Wilson**, assistant auditor freight receipts of the Atlantic Coast Line, has been appointed auditor freight receipts, with headquarters as before at Wilmington, N. C., succeeding **Kelley W. Price**, who retired at his own request on February 28, after more than 58 years with this road. Mr. Wilson was born at Baltimore, Md., and entered the service of the A. C. L. on September 15, 1908, as a clerk in the department he will now head. He subsequently served as assistant chief clerk, chief clerk, auditor miscellaneous accounts, and auditor overcharge claims, successively. Mr. Wilson was named assistant auditor freight receipts on February 1, 1932.

Mr. Price is a native of Shelbyville, Tenn., and received his education in the



**McCulloch B. Wilson**

public schools there and in Florida. He began his railroad career with the South Florida (now part of the A. C. L.) at Sanford, Fla., on October 13, 1890. When the former Plant system was merged with the A. C. L., Mr. Price transferred to Wilmington on August 1, 1902, as head clerk, freight reports bureau. He became chief clerk to auditor freight receipts on April 1, 1905; auditor station accounts on December 1, 1911; assistant auditor freight receipts on December 1, 1921; and auditor freight receipts on February 1, 1932. Mr. Price is also auditor freight receipts of the Charleston & Western Carolina and the Winston-Salem South-bound.

## OPERATING

**John L. Kennedy**, whose appointment as superintendent of the Ocala district of the Atlantic Coast Line at Ocala, Fla., was reported in the *Railway Age* of February 5, was born at Fayetteville, N. C., and entered railroad service on

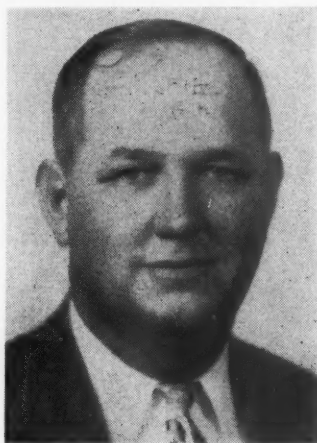
the A.C.L. on May 2, 1920, as a switchman at Fayetteville. Mr. Kennedy was appointed yard conductor at Lakeland, Fla., on April 3, 1921; yardmaster at Lakeland on July 1, 1925; general yardmaster at Lakeland on July 1, 1940;



**John L. Kennedy**

trainmaster at Waycross, Ga., on October 25, 1942; and superintendent terminals at Jacksonville, Fla., on June 1, 1948. He served as acting superintendent of the Ocala district from June 16, 1948, until his recent appointment.

**Jacob Lance Mears**, whose appointment as superintendent terminals of the Atlantic Coast Line at Jacksonville, Fla., was reported in the *Railway Age* of February 5, was born at Bessemer, Ala., on May 18, 1902. He entered railroad service on the Seaboard Air Line at Atlanta, Ga., and became affiliated with the A.C.L. on October 8,



**Jacob Lance Mears**

1926, as clerk-telegrapher at Gainesville, Fla. He subsequently served as passenger ticket agent at Clearwater, Fla.; agent at Gainesville and St. Petersburg, Fla., successively; terminal trainmaster at Clewiston, Fla.; agent at St. Petersburg, and freight agent at Jacksonville. He has been acting superintendent terminals at Jacksonville since June 16, 1948.

**John W. Myers**, whose appointment as superintendent of the Chicago, Rock Island & Pacific at Fairbury, Neb., was reported in the *Railway Age* of January 29, was born on September 7, 1885, at Brunswick, Mo., and entered railroad service in 1903 as a hostler with the Denver & Rio Grande Western. He later worked as a helper and switchman, and in April, 1906, joined the Oregon Shore Line (now part of the Union Pacific) as a brakeman at Pocatello, Idaho. From September, 1907, to November, 1936, he held various positions at Pocatello and at Idaho Falls, Idaho, except during World War I, when he served in France with the 62nd Engineers, Railroad Battalion. He was later appointed trainmaster at Montpelier, Idaho, advancing to assistant superintendent at Pocatello in 1937 and to division superintendent of the U. P. at that point in August, 1941. In December, 1941, he was further advanced to general superintendent at Salt Lake City, Utah, and in August, 1943, he joined the Office of Defense Transportation at Los Angeles, Cal. Mr. Myers entered Rock Island service in July, 1944, as special representative to the chief operating officer, and in November, 1944, he became division superintendent at Rock Island, Ill. He was subsequently transferred to St. Louis, Mo., as acting superintendent, which post he held at the time of his recent appointment.

**A. Hart**, assistant general manager of the Boston & Albany, has been appointed general manager, with headquarters as before at Boston, Mass., succeeding **George A. Kirley**, who has retired after 42 years of service. A biography and photograph of Mr. Hart were published in the *Railway Age* of November 20, 1948, page 1004.

**Luke W. Nolan**, whose retirement as superintendent passenger transportation of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of January 29, was born at Ambler, Pa., on February 18, 1883. Mr. Nolan entered railroad service on September 20, 1896, as messenger and telegraph student with the Reading at Lansdale, Pa., returning to school on August 31, 1897. He became a telegrapher on the Wyoming division of the Lehigh Valley on September 20, 1900, going with the New Haven in the same capacity on April 5, 1905, at New Haven. Mr. Nolan was appointed chief clerk to chief train dispatcher, Shore Line division, at New Haven on February 18, 1908, and became assistant chief train dispatcher, same division, on January 30, 1909, transferring to the Old Colony division at Taunton, Mass., on November 18, 1915. He served subsequently as assistant trainmaster, trainmaster and headquarters assistant superintendent on the Old Colony and Providence divisions. Mr. Nolan was appointed superintendent



ent passenger transportation at New Haven on October 1, 1940.

**John W. Burton**, special accountant of the New York Central System at Cincinnati, Ohio, has been promoted to assistant to general manager at that point, succeeding **H. E. Coverston**, who has retired after almost 55 years of service.

**Guy R. Buchanan**, assistant to operating vice-president of the Atchison, Topeka & Santa Fe System at Chicago, has been appointed general manager of the Panhandle & Santa Fe at Amarillo, Tex., succeeding **G. C. Jefferis**, whose death was reported in the *Railway Age* of February 26. Mr. Buchanan has been replaced by **W. L. More**, assistant general manager, Western Lines, at La Junta, Colo. **L. M. Olson**, assistant general manager, Coast Lines, at Los Angeles, Cal., succeeds Mr. More.

**Lawrence Richardson**, assistant general manager of the New York, Susquehanna & Western, at Paterson, N. J., and mechanical consultant to the Boston & Maine and Maine Central, has gone to Iran to survey railroad operations in that country and recommend possible improvements. Mr. Richardson's survey is in connection with an agreement by Overseas Consultants, Inc. (a group of 11 American engineering and consulting firms) to plan and supervise Iran's projected seven-year \$650,000,000 development program, which involves reforms in agriculture, industry, communications, public utilities and other public facilities. Mr. Richardson served his apprenticeship with the Pennsylvania at Altoona, Pa., and was with the P.R.R. mechanical department for 10 years. He joined the B. & M. in 1926 as assistant to the chairman of the board. In 1947 he became mechanical consultant to the vice-president of that line and also of the Maine Central. In the same year he became assistant general manager of the N. Y. S. & W. He is chairman of the Committee on Train Operation, Control and Signals, Association of American Railroads.

**Marion Roberts**, trainmaster of the Chicago, Rock Island & Pacific at Oklahoma City, Okla., has been promoted to superintendent of the Cedar Rapids (Iowa) division, succeeding **J. E. Newton**, who has been transferred to the Oklahoma division.

**J. W. Harman**, assistant superintendent of the Canadian Pacific at Montreal, Que., has been appointed superintendent, Montreal terminals, succeeding **G. E. Mayne**, transferred.

**J. M. Chouinard**, chief dispatcher of the Canadian National at Cochrane, Ont., has been appointed assistant superintendent of the Cochrane division at Senneville, Que., succeeding **J. D. Houde**, who has been transferred to Cochrane, to

succeed **A. O. Lalonde**, whose promotion to superintendent of the Levis division was noted in the *Railway Age* of February 25, page 468.

**W. J. Riesberry**, superintendent of the Oshawa railway at Oshawa, Ont., has been appointed manager of the National Terminals of Canada, Ltd., the Montreal Stock Yards Company, and the Montreal Fruit & Produce Terminal Co., succeeding **H. F. Walker**, transferred.

**J. F. Niland**, freight trainmaster of the Reading, has been appointed assistant superintendent transportation, with headquarters as before at Philadelphia, Pa., succeeding **R. C. Klein**, who has been appointed assistant to vice-president.

**Paul M. Wolfe**, superintendent of passenger transportation of the New York Central at Cleveland, Ohio, has been transferred to Indianapolis, Ind., to succeed **Harry O. Schuyler**, who has retired after more than 50 years of service. Mr. Schuyler was born on August 12, 1880, at Union City, Ind., and entered railroad service on August 16, 1898, as an operator with the Cleveland, Cincinnati, Chicago & St. Louis (now part of N. Y. C.) at Gretna, Ohio. He later held the same position at Muncie, Ind., and Bellefontaine, Ohio, and in July, 1904, was advanced to train dispatcher at the latter point. He subsequently served as night chief dispatcher, assistant day dispatcher, chief dispatcher and assistant trainmaster at Bellefontaine. Mr. Schuyler was later transferred to Galion, Ohio, and in July, 1921, was promoted to trainmaster at Mt. Carmel, Ill., becoming trainmaster at Danville, Ill., in 1924. He was appointed superintendent of passenger transportation at Indianapolis in May, 1925.

**Walter Allen**, assistant superintendent of the Pueblo division of the Denver & Rio Grande Western, at Pueblo, Colo., has been appointed assistant superintendent of transportation at Denver, Colo., succeeding **C. V. Colstadt**, who in turn has replaced Mr. Allen, with headquarters transferred to Denver. **C. E. McEnany**, trainmaster at Denver, has been transferred to Pueblo.

**F. J. Corrigan**, formerly dining car inspector of the Denver & Rio Grande Western, has been appointed assistant superintendent of the dining car and hotel department at Denver, Colo.

**George W. Svoboda**, assistant superintendent of the Charleston district of the Atlantic Coast Line at Charleston, S. C., has been appointed superintendent of that district, succeeding **O. T. Waring**, who has retired at his own request, after more than 43 years of service with the A. C. L. The position of assistant superintendent at Charleston has been abolished. Mr. Waring was born at Pittsburgh, Pa., and attended the Leals School at Plainfield, N. J., and the University of Pennsylvania, receiving the

degree of bachelor of science in civil engineering from the latter in 1902. He entered the service of the Baltimore & Ohio that same year and three years later joined the A. C. L. as assistant engineer, also serving as assistant engineer and assistant superintendent of the Charleston & Western Carolina. He served as roadmaster, acting engineer of roadway, district superintendent of the Winston-Salem district and district superintendent at Waycross, Ga., successively, of the A. C. L. Mr. Waring transferred in 1923 to the Charleston district, where he had since remained.

## TRAFFIC

**A. O. Olson**, whose appointment as director of industrial development of the Chicago & North Western at Chicago was reported in the *Railway Age* of January 15, was born on November 21, 1892, at Green Bay, Wis., and educated at the American Institute Correspondence School and in evening courses at the University of Pittsburgh. He entered railroad service in 1906 as a callboy for the North Western at North Fond du Lac, Wis., and worked at that point in various positions for the next 19 years, with the exception of two



A. O. Olson

years as an Army pilot in World War I. He was appointed city agent in 1925 at Cleveland, Ohio, and served successively as district agent at Green Bay, traveling agent at New York and general agent at Kansas City, Mo., and Pittsburgh, Pa. He went to Chicago in 1941 as general freight agent and was subsequently made assistant freight traffic manager—sales, in 1947. Later that year, Mr. Olson was appointed general industrial agent, the position he held at the time of his appointment as director of industrial development.

**John Hamilton Norwood**, whose appointment as freight traffic manager of the New York Central at Cleveland, Ohio, was reported in the *Railway Age* of January 15, was born on July 27, 1893, at Brooksville, Miss. After attending the public schools and Lake Business



College at Meridian, Miss., Mr. Norwood entered the service of the New York Central on July 1, 1915, as chief clerk at Birmingham, Ala., subsequently serving as traveling freight agent. On June 1, 1918, he went to Louisville, Ky., where he served successively as clerk, traveling freight representative and city freight agent. Returning to Birmingham on February 1, 1922, Mr. Norwood served as traveling freight agent and general agent, transferring to Atlanta, Ga., in the latter capacity on January 1, 1926. He was appointed division freight agent at Dayton, Ohio, on June 1, 1930; assistant general freight agent at Cincinnati, Ohio, on June 1, 1935, and general freight agent at Chicago on June 1, 1938. On July 1, 1941, Mr. Norwood went to Cincinnati as general freight agent, becoming assistant freight traffic manager there on February 15, 1944, and transferred to New York in the same capacity on July 16, 1946, in which position he remained until his recent appointment.

**George F. Harrigan**, whose appointment as assistant freight traffic manager of the Wabash at St. Louis, Mo., was reported in the *Railway Age* of January 15, was born in that city and graduated from Central High School there. He entered railroad service in 1918, as a stenographer in the freight



**George F. Harrigan**

traffic department of the Wabash at St. Louis, and subsequently advanced through several secretarial positions. In 1928 Mr. Harrigan was promoted to perishable freight agent at Harlingen, Tex., and in 1940 became general agent in the freight department at Pittsburgh, Pa., where he served continuously until his recent appointment.

**F. G. Scott**, whose promotion to western passenger traffic manager of the Northern Pacific at Seattle, Wash., was reported in the *Railway Age* of January 8, was born in Ohio, and subsequently moved to Billings, Mont. He began his railroad career in 1917 with the N. P. as a call boy at Billings, and for the next eight years he was employed in the operating department at that

point and at Bozeman, Mont., Butte, Livingston, Logan, Belgrade and Red Lodge. He then entered the traffic department at Billings as chief clerk and later served successively as city passenger agent and traveling passenger agent



**F. G. Scott**

at Cleveland, Ohio, and as city passenger agent at Chicago. Mr. Scott was advanced to general agent in the passenger department at Chicago in 1941, which position he held at the time of his recent promotion

**Ralph W. Cooke**, whose retirement at Chicago after nearly 52 years of service in the freight traffic department of the Pennsylvania, was reported in the *Railway Age* of January 8, was born on March 23, 1878, at Marion, N. Y. He attended Rochester Business University and the Wharton School of Finance, University of Pennsylvania. Mr. Cooke

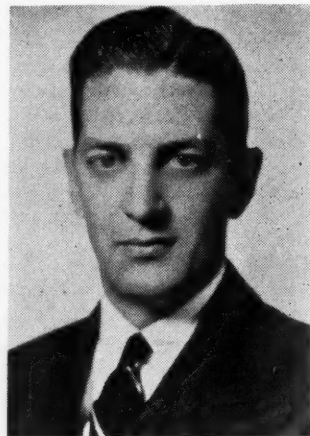


**Ralph W. Cooke**

entered the service of the Pennsylvania in 1897 as a clerk at Rochester, N. Y., and in 1899 went to Buffalo, N. Y., as chief clerk. He later served successively in the general office at Philadelphia, Pa., as freight solicitor in that city, and as traveling freight solicitor at Rochester and Pittsburgh, Pa. Mr. Cooke remained in the latter city from 1912 to 1920, serving first as industrial agent,

and, during the period of federal control of the railroads, as supervisor of loss and damage prevention. He next went to Chicago, where he advanced through the positions of freight claim agent, assistant general freight agent and general freight agent. For many years, Mr. Cooke has been in charge of freight traffic personnel work for the road's entire Western Region territory. He has directed the road's training program for young men, a number of whom now hold important positions in the Pennsylvania's on- and off-line territories. Mr. Cooke is also the author of a book on freight transportation sales, which is used throughout the Pennsylvania system.

**G. S. Chappell, Jr.**, whose appointment as assistant passenger traffic manager of the Pullman Company at Chicago, was reported in the *Railway Age* of January 8, entered service with that company 18 years ago in the office of the mechanical superintendent. In 1931 he was transferred to the Chicago East-



**G. S. Chappell, Jr.**

South district, and in 1932 he entered the passenger traffic department. He was promoted to assistant to the passenger traffic manager in January, 1936, and in 1940 was advanced to assistant general passenger agent, the post he held at the time of his recent appointment as assistant passenger traffic manager.

**Sam H. Milby** has been appointed general baggage, mail and express agent of the Southern Pacific Lines in Texas and Louisiana, at Houston, Tex., succeeding **Ernest J. Peters**, who has retired after 46 years of railroad service.

The Union Pacific has announced the appointments of **F. L. Morgan** as general agent, freight department, with headquarters at Salt Lake City, Utah, and **H. G. Pelletier** as general agent at Fresno, Cal.

**Harry A. Witte**, general freight agent of the Baltimore & Ohio at Baltimore, Md., has been appointed freight traffic manager, Eastern region, with the same

*there  
is a  
place*

**W**E FIRMLY BELIEVE that for a long, long time, there will continue to be a demand for steam locomotives.

Therefore, while we *are* building diesel-electrics for the switching field — and while we have nearly completed experimental work on the free-piston gas generator for locomotive use — we will continue to build a complete line of steam locomotives.

We will continue to explore all possible ways of improving such locomotives. We will continue to build them with the traditional fineness of design and manufacture that is responsible for Lima's world-wide reputation. And we will continue to believe that there is a place for these locomotives — for such modern power as the 2-8-4's we are now building, as our fifth order for the Nickel Plate.



**DIVISIONS:** Lima, Ohio—Lima Locomotive Works Division; Lima Shovel and Crane Division. Hamilton, Ohio—Hooven, Owens, Rentschler Co.; Niles Tool Works Co. Middletown, Ohio — The United Welding Co.

**PRINCIPAL PRODUCTS:** Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.



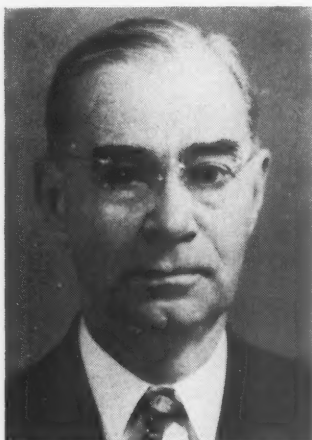
headquarters succeeding **Howard G. Settle**, who has retired after 49 years of service with the B. & O. Mr. Witte was born on November 14, 1895, at Cincinnati, Ohio. He entered railroad service with the B. & O. on June 1, 1914, as a stenographer in the district freight office at Cincinnati and rose through suc-



**Harry A. Witte**

cessive clerical positions to become division freight agent at Indianapolis, Ind., in January, 1941. Mr. Witte transferred to Baltimore in January, 1945, and was promoted to general freight agent there on June 1, 1946.

Mr. Settle was born near Madisonville, Hamilton county, Ohio, on July 24, 1882, and attended Ohio State University for one year. He entered railroad service on February 1, 1900, as a messenger in the general freight office of the Baltimore & Ohio Southwestern (now B. & O.) at Cincinnati, serving in various clerical positions in the general freight department until December, 1915, when he was appointed chief clerk in



**Howard G. Settle**

that department. In August, 1919, Mr. Settle was appointed division freight agent at Chillicothe, Ohio, subsequently being transferred to Seymour, Ind., and Washington, Ind. He became assistant general freight agent at Baltimore in June, 1922, and was appointed assistant

to freight traffic manager in charge of commerce work before state and interstate commissions for the Eastern lines of the B. & O. in October, 1926. Mr. Settle became freight agent in July, 1930; assistant freight traffic manager at Baltimore in January, 1937; and freight traffic manager, Eastern region, in January, 1946.

**R. C. McLemore** and **B. H. Cobb** have been appointed assistant general freight agents of the Atlantic Coast Line, at Atlanta, Ga., and Birmingham, Ala., respectively.

**F. H. Bryant**, general agent of the Seaboard Air Line at Fort Myers, Fla., has retired after 37 years with that road. Mr. Bryant served as freight traffic manager of the S. A. L. at Norfolk, Va., from June, 1940, until February 1, 1947, when, at his own request and because of ill health, he was relieved of the duties of that position and appointed general agent at Fort Myers.

**Philip Francis Carmody**, traffic representative of the St. Louis-San Francisco at New York, has been promoted to foreign freight agent, with the same headquarters. **Howard H. Knuth**, traffic representative at Chicago, has been advanced to foreign freight agent at that point.

**E. C. Ennis** has been appointed general agent of the Delaware, Lackawanna & Western at Albany, N. Y., succeeding **R. K. Lovitt**, who has been transferred to Cleveland, Ohio, to succeed **L. E. Tenney**, who has been promoted to the general offices at New York.

The Norfolk & Western has announced a number of changes in its traffic department at Roanoke, Va., following the retirement of **O. W. Cox**, general traffic manager, which was reported in the *Railway Age* of February 26. **F. K. Prosser**, coal traffic manager, has been promoted to general coal traffic manager—sales, service, rates and divisions on coal and coke traffic, a new position. **F. H. Pitman**, freight traffic manager, has been promoted to general freight traffic manager—rates and divisions (other than coal and coke traffic), a new position. **C. F. Keeley**, assistant freight traffic manager, succeeds Mr. Pitman as freight traffic manager—rates and divisions (other than coal and coke traffic). **R. F. Dickson**, general freight agent, has been appointed assistant freight traffic manager in charge of sales and service in Eastern territory, succeeding **S. S. Hosp**, who has been appointed freight traffic manager, sales and service (other than coal and coke traffic), a new position. **C. W. Nickless**, general agent at Pittsburgh, Pa., succeeds Mr. Dickson as general freight agent in charge of sales and service in Southern territory. **C. G. Hammond**, chief of the divisions bureau, has been appointed assistant general freight agent, succeeding **E. P. Petticrew**, who has been promoted

to assistant freight traffic manager. **H. E. Davis**, assistant chief of the divisions bureau, succeeds Mr. Hammond as chief of that bureau. **B. S. Nininger**, chief clerk to assistant freight traffic manager, has been appointed assistant general freight agent. The positions of general traffic manager and coal traffic manager have been abolished.

**I. B. Middleton**, assistant general freight agent of the Chesapeake & Ohio at Richmond, Va., has retired after 45 years of railroad service, 43 of which were with the C. & O.

## MECHANICAL

**Russell Gould**, acting superintendent of motive power of the Sacramento Northern at Sacramento, Cal., has been appointed superintendent of motive power at that point.

**H. W. Proctor**, master mechanic of the Chicago & North Western, at St. Paul, Minn., has been promoted to superintendent of motive power and machinery at that point, succeeding **O. J. Protz**, retired. **J. L. Reed**, master mechanic at Sioux City, Iowa, has succeeded Mr. Proctor and will have jurisdiction over the Eastern and Western districts. Mr. Reed's former position has been discontinued.

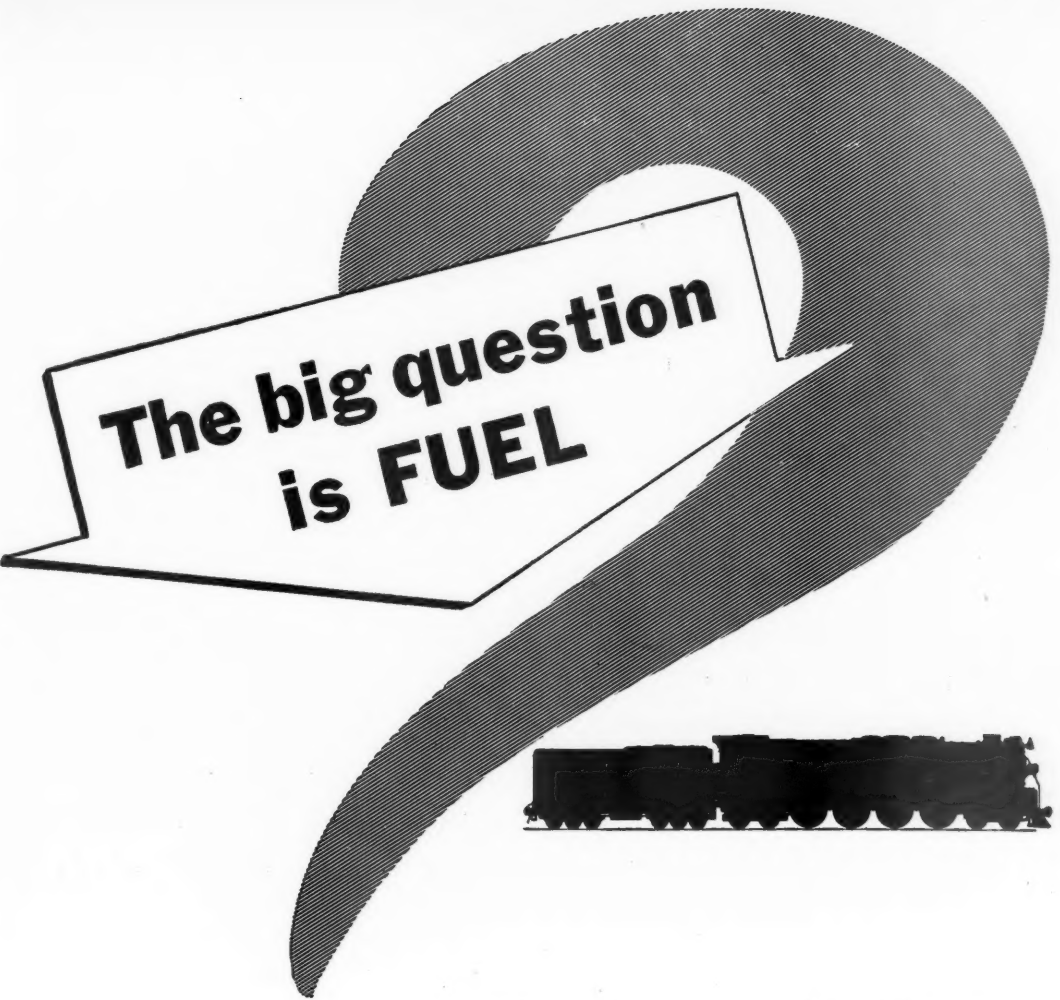
**George A. Howard**, whose appointment as mechanical engineer, shop methods, of the Canadian National at Montreal, Que., was reported in the *Railway Age* of January 15, was born at Glossop, England. He began his railway service in 1920 as an apprentice at Winnipeg, Man., with the Canadian National, and was appointed mechanic in 1926, becoming an apprentice instructor five



**George A. Howard**

years later. In 1939 he was named regional apprentice supervisor at Winnipeg and in 1943 was appointed supervisor of accident prevention there. In 1945 Mr. Howard became general supervisor of apprentice training and two years later was appointed shop foreman at the Point St. Charles shops. Mr. Howard became general inspector of





**The big question  
is FUEL**



The motive power problem of the *future* is what available fuel will prove most efficient. The problem of *today* is to get the most efficient returns from whatever fuel is being used.

Fleets of steam locomotives, that have been equipped with Security Circulators supporting properly proportioned brick arches, show definite gains in performance in relation to the fuel consumed. Such installations have been made by fifty railroads, in twenty-five different types of locomotives.

Many other existing locomotives could be continued in profitable service if equipped with Security Circulators to improve their operation.

\* \* \*

The Security Dutch Oven, recently developed and introduced by the American Arch Company, has already been installed in over two hundred oil-burning steam locomotives, to increase efficiency of combustion and aid in improving steaming qualities.

***American Arch Company Inc.***

NEW YORK • CHICAGO

shop methods at Montreal in 1948, which position he held at the time of his recent appointment as mechanical engineer, shop methods.

## ENGINEERING and SIGNALING

**C. Paul Schantz**, whose appointment as assistant to the chief engineer of the Eastern region of the Pennsylvania at Philadelphia, Pa., was reported in the *Railway Age* of January 22, was born at Bucks county, Pa., on April 3, 1893. Mr. Schantz received his mechanical engineering degree from Drexel Institute of Technology in 1912, entering railroad service in October of that year as chainman in the chief engineer's department of the P.R.R. From June, 1928, until November, 1941, he served successively as draftsman, supervising draftsman, designing engineer, office en-



**C. Paul Schantz**

gineer and assistant engineer of bridges. In November, 1941, Mr. Schantz was appointed assistant chief engineer, maintenance of way, of the Eastern region, at Philadelphia, which position he held until his recent appointment. In his new assignment, Mr. Schantz will supervise the design of structures incident to completion of the Philadelphia improvement program. Work on the project, which will result eventually in the removal of the so-called "Chinese Wall," already has been started with the construction of additional platforms and facilities at Pennsylvania station, 30th street, Philadelphia.

**J. M. Boles**, assistant to chief engineer, maintenance of way and structures of the Southern at Cincinnati, Ohio, has been granted a leave of absence by that company to serve as railroad transportation specialist with the Economic Cooperation Administration. Mr. Boles' headquarters will be in Paris, France, in the office of the special representative, E. C. A. Born on November 7, 1905, at Salisbury, N. C., Mr. Boles attended the public schools of Greensboro, N. C., and Roanoke College, Salem, Va., receiving his B. S. degree from the Uni-

versity of Virginia in 1925. He served with Southern maintenance of way forces during school vacation periods beginning in June, 1917, and was appointed a student apprentice in July, 1927. He was promoted to assistant track supervisor of the Charlotte division in December, 1928, later transferring to Birmingham, Ala. In December, 1930, he was promoted to track supervisor at Selma, Ala., subsequently transferring to Birmingham, Ala., and Lexington, Ky. Mr. Boles entered military service in February, 1942, with the 727th Railway Operating Battalion and was released from active duty as a major in 1945. In October, 1945, he returned to the Southern as track supervisor at Lexington, later becoming assistant to chief engineer at Cincinnati.

**C. M. Wallace**, engineer telegraph and signals, Western region, of the Pennsylvania at Chicago, has been appointed assistant superintendent telegraph and signals, Eastern region, at Philadelphia, Pa., succeeding **J. C. Patterson**, deceased. **G. C. Felton**, inspector telegraph and signals, New York zone, at New York, succeeds Mr. Wallace at Chicago.

**A. W. Schroeder**, assistant to engineer of track of the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed chief engineer of the Chicago & Eastern Illinois, effective March 1, with headquarters at Danville, Ill., succeeding **J. S. McBride**, who becomes chief engineer consultant, with headquarters as before at Chicago. **I. A. Moore**, division engineer of the C. & E. I. at Danville, has been promoted to assistant chief engineer, with the same headquarters, and **J. E. Bernhardt**, bridge engineer, at Chicago, has had his title changed to engineer of structures, in charge of both bridges and buildings, with new headquarters at Danville.

**C. F. Parvin**, assistant division engineer of the Philadelphia Terminal division of the Pennsylvania, at Philadelphia, Pa., has been promoted to division engineer of the Wilkes-Barre division, at Sunbury, Pa., succeeding **J. H. Schilling**, who has been granted a leave of absence pending retirement. **C. H. Kooser**, supervisor of track on the Eastern division at Mansfield, Ohio, has been promoted to assistant division engineer of the Philadelphia Terminal division, succeeding Mr. Parvin.

## SPECIAL

**Albert A. Lowe**, superintendent of safety of the Southern Pacific at San Francisco, Cal., with jurisdiction over six western states, will retire on March 15. Mr. Lowe was born on November 21, 1882, at Hopkinton, Iowa; he attended Williamette University in Oregon, and entered railroad service at Portland, Ore., in 1905 as a clerk for the Oregon Railroad & Navigation Co. (now part of the Union Pacific). He later held

various clerical posts with the same company, and in 1912 joined the S. P. as chief clerk to district engineer, maintenance of way, at Portland. He was appointed chief clerk to the superintendent of the Portland division in 1915, chief clerk to the assistant general manager at San Francisco, in 1918, and trainmaster of the Salt Lake (Utah) division in 1922. He subsequently served as trainmaster on the Western and Coast divisions, and in 1929 became general transportation inspector at San Francisco. Mr. Lowe was advanced to assistant superintendent in 1931, to general supervisor of transportation in 1932, and, in January, 1939, to assistant to the general manager at San Francisco. In July, 1939, Mr. Lowe was appointed superintendent of the Tucson (Ariz.) division, and in September, 1940, became superintendent of safety.

**Ernest H. Engelke**, supervising instructor in the dining car department of the Pennsylvania at Chicago, has retired after 22 years of service in that department.

**James J. Duffy** and **Elmer T. Pettengill** have been appointed to the newly-created positions of manager of labor relations and assistant manager of labor relations, respectively, of the Jersey Central Lines, both with headquarters at Jersey City, N. J. Mr. Duffy, who started his railroad career with the Jersey Central Lines on August 24, 1926, had been personnel assistant to the chief operating officer since May 24, 1944. Prior to that appointment he had served successively as a freight brakeman, freight conductor, yardmaster and general yardmaster, at Newark, N. J., and Elizabeth.

Mr. Pettengill, who has been with the Jersey Central Lines as an attorney since October 3, 1947, is a graduate of the John Marshall College of Law, Jersey City.

**J. W. White**, special assistant—personnel of the Missouri Pacific Lines, at St. Louis, Mo., has been promoted to assistant to chief personnel officer at that point, succeeding **F. A. Johnson**, resigned. Mr. White has been succeeded by **F. E. Griese**.

## OBITUARY

**Carl W. Cockrell**, assistant to president, treasurer and general manager of the Midland Continental at Jamestown, N. D., died on February 17. He was born on May 22, 1885, at Burbank, Ohio, and was educated at Burbank high school and Wooster University. He first entered railroad service in 1902 as freight and ticket clerk for the Erie, and from 1918 to 1922 he engaged in factory traffic and transportation with the Goodyear Tire & Rubber Co., Akron, Ohio. In 1922 he joined the Seiberling Rubber Company, Akron, as traffic manager, and joined the M. C. in the positions indicated above on April 15, 1936.



## ***It takes a sure and knowing hand...***

... to drive a locomotive, or to make good iron. Here, at Hunt-Spiller, experience and skill get full scope because of the time-tested *air furnace process* which permits more exact control. There is time to do what must be done and time to make sure that the iron is just

right before it is cast. The result is an iron with close, evenly-graphited structure which lasts longer under conditions of intense wear and heat.

Hunt-Spiller are exclusive railroad sales representatives for Double Seal Piston Rings made for Diesel and other services. Double Seal rings are cast from Hunt-Spiller *Air Furnace Gun Iron*.

All but a very few Class I American railroads have long used Hunt-Spiller Gun Iron for a host of vital steam locomotive parts such as cylinder and valve bushings, pistons, packing, etc. And now more and more of them are discovering that it makes superior diesel cylinder liners as well.



## **HUNT-SPILLER MFG. CORPORATION**

N. C. RAYMOND, President    F. W. LAMPTON, Vice-Pres. & Gen. Sales Mgr.

383 Dorchester Ave.    ★    South Boston 27, Mass.

Canadian Representatives: Joseph Robb & Co., Ltd., 4050 Namur St., Montreal 16, P. Q.

Export Agents:

International Rwy. Supply Co., 30 Church Street, New York 7, N. Y.

Cylinder Bushings  
Cylinder Packing Rings  
Pistons or Piston Bull Rings  
Valve Bushings  
Valve Packing Rings  
Valve Bull Rings

Crosshead Shoes  
Hub Liners  
Shoes and Wedges  
Floating Rod Bushings  
Light Weight Valves  
Cylinder Liners and Pistons  
for Diesel Service

Dunbar Sectional Type Packing  
Duplex Sectional Type Packing  
for Cylinders and Valves  
(Duplex Springs for Above  
Sectional Packing)  
Cylinder Snap Rings  
Valve Rings, All Shapes



## WHEN INDUSTRIAL TRUCKS ARE

# Battery-Powered

## UNIT-LOAD SAVINGS ARE GREATEST!



**HIGH-TIERING** with clean, safe battery power in this wholesale grocery warehouse *doubled effective storage space*, released valuable space for other purposes. Here, one hundred 25-pound sacks of flour, made up as a pallet-load, move as a unit into surplus and from there to the order selection line.

**CLEAN, SAFE, COOL**—the electric truck features that appeal strongly to another user handling foodstuffs—this time, a canned soup manufacturer. Plant officials say they selected battery-powered equipment because "it is fume-free, presents a minimum of fire hazard and gives off no heat in 'constant temperature' rooms".



**T**hroughout production and distribution, battery-powered industrial trucks assure unit-load handling most dependably, most efficiently—at *lowest cost per ton handled*. Thus America's top industries, with years of owning and comparing, favor *electric* industrial trucks over all other kinds.

Unit-load savings are industry-wide. Both you and your supplier profit, for instance, when you specify unit-load packing. You save again through unit-load handling in your own operations. Then you and your consignee profit when you ship in unit loads.

Put this new formula to work. Specify unit loads to your plant . . . in your plant . . . from your plant. And for greatest efficiency in your own industrial trucking, specify battery power.

**THE ELECTRIC  
INDUSTRIAL TRUCK  
ASSOCIATION**

29-28R Forty-first Avenue, Queens Plaza, Long Island City 1, N. Y.



ASK FOR the 56-page Material-Handling Handbook, now in its fifth printing, a popular and reliable guide to Unit-Load Methods. It's free.

## GENERAL NEWS

(Continued from page 66)

### MacDonald Admits Heavy Trucks Damage Highways

Asserting that "no policy would be more wasteful of public funds" than an increase in truck axle-load limits, Thomas H. MacDonald, commissioner of public roads, in a recent address to a road builders' conference at Washington, D. C., urged limitation of truck axle loads to a maximum of 18,000 lb. At the same time, he recommended that "any revision of laws governing gross weight of vehicles should take the form recommended by the American Association of State Highway Officials, which relates gross weight to the number and spacing of axles."

"This matter is now of most serious interest," Mr. MacDonald said, "because of the number of states in which a drive will be made to increase axle-load limits."

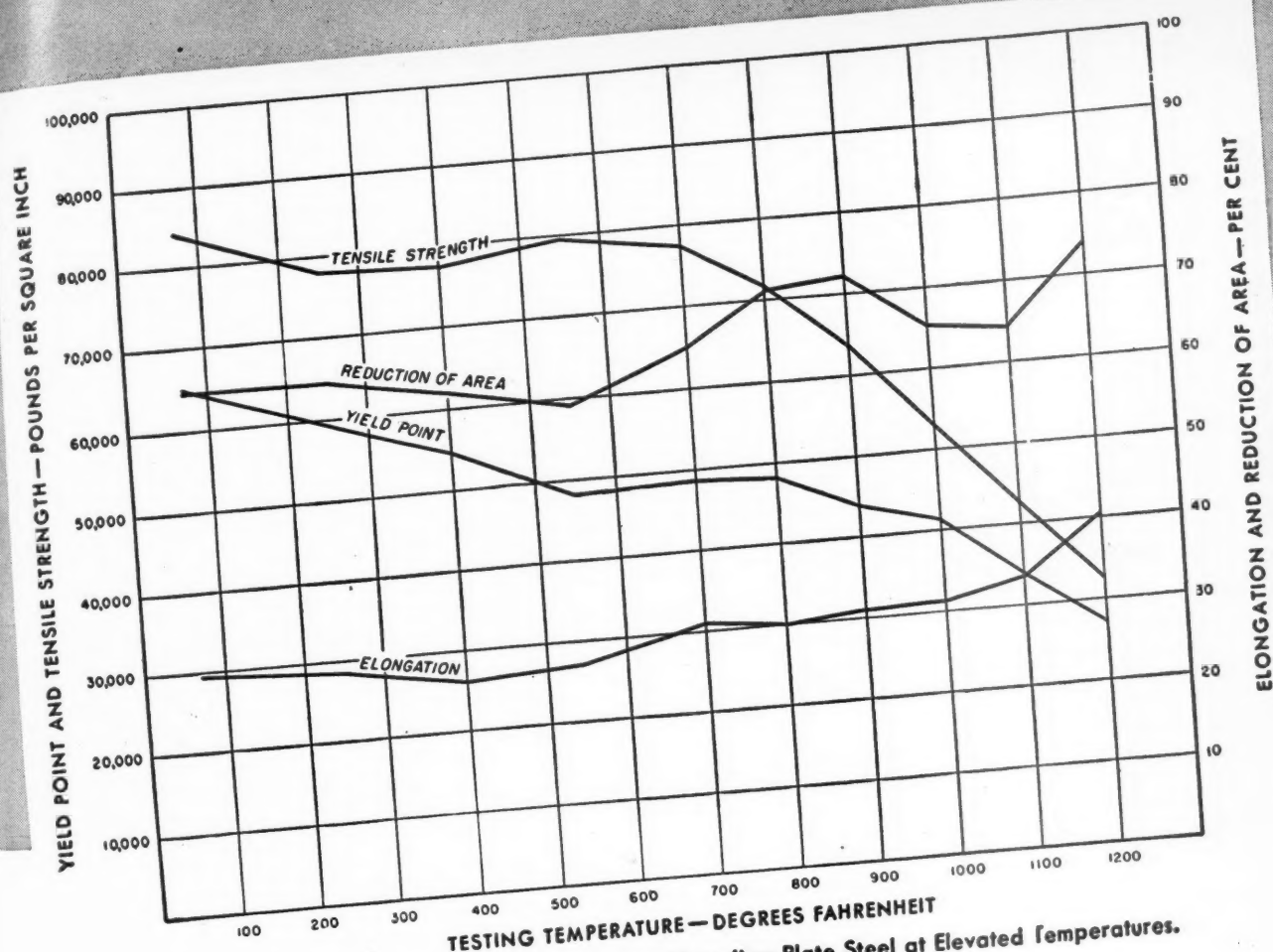
"In 1931," he continued, "I stated, 'The roads are more destroyed really by climatic and soil conditions than by any use that is made of them.' This statement was correct 18 years ago. . . . In the intervening years there have been great changes in the total number of trucks on the highways, in the proportion of them with heavy loads and overloads, and in the observed effect on highways."

"The volume of truck traffic is nearly three times what it was then. Even more significant is the proportion of trucks that carry heavy loads. In 1931 trucks traveled 11.4 billion miles on main roads. This year the figure may well reach 34 billion. In 1931 only about eight trucks in every thousand had axle loads of 18,000 pounds, and there were practically no axle loads in excess of 20,000 pounds. In 1947, 76 trucks in every thousand had axle loads of 18,000 pounds or more, 33 of which were 20,000 pounds or more, and 14 were 22,000 pounds or more. Axle loads of 28,900 pounds have been found in Connecticut, 29,000 pounds in Massachusetts, 26,000 pounds in Ohio, 40,420 pounds in New Jersey, 31,820 pounds in New York, and 26,200 pounds in Maryland."

"A main highway of average traffic characteristics which in 1931 carried 5,000 vehicles per day, including 780 trucks, in 1947 had a traffic of 9,500 vehicles per day, including 1,980 trucks. Daily the highway in 1947 was subjected to 137 axle loads of 18,000 pounds or more, 65 of which were 20,000 pounds or more, and 27 were 22,000 pounds or more."

"Prior to the war, damage had reached alarming proportions. With the marked increase in heavy loads since the end of the war, the damage has become even more alarming."

"Damage has occurred on all types of high-type pavements. . . . There is



Short Time Tensile Properties of Manganese-Vanadium Plate Steel at Elevated Temperatures.  
(Average of 9 Heats)

## High temperature properties of Manganese-Vanadium Steel Plate

**I**N PLATE STEEL for boiler construction, ability to maintain ductility throughout the temperature range customarily experienced in high pressure boilers is a notable achievement.

The above chart indicates that Manganese-Vanadium plate steel meets this requirement to a superlative degree. Representing closely-agreeing results obtained on 9 commercial heats of this type of steel, made to ASTM Spec. A 225-46, it displays in striking manner the excellent ductility in that temperature range ordinarily referred to as "blue brittle."

The hazardous embrittlement which occurs when firebox plate of ordinary steels is heated through this temperature range is of great concern to both design-

ing engineers and operators of locomotive boilers. The satisfactory service record of Manganese-Vanadium steel plate in a number of locomotive boiler applications, under a wide variety of operating conditions, is a practical demonstration that its mechanical properties are adequate for successful locomotive boiler operation at elevated temperatures.

Our metallurgical engineers have had considerable experience in this field, and will be glad to help you obtain the maximum benefit from the use of Manganese-Vanadium steel.

MAKERS OF  
FERRO ALLOYS



CHEMICALS  
AND METALS

## VANADIUM CORPORATION OF AMERICA

420 LEXINGTON AVENUE, NEW YORK 17, N. Y. • DETROIT • CHICAGO • CLEVELAND • PITTSBURGH

# Safeguard

**Rolling Stock,  
Bridges, Tanks, Towers  
Metal Buildings,  
Signal Equipment and  
Other Properties  
Against COSTLY RUST!**



Nothing equals Rust-Oleum—the proved rust preventive—for the lasting protection of metal—especially in closed or inaccessible areas where condensation due to temperature changes breeds rust.

## RUST-OLEUM

### ***Stops Rust!***

- Rust-Oleum cuts preparation time. No sandblasting or chemical cleaners are necessary.
- Rust-Oleum outlasts ordinary materials two to ten times depending on conditions.
- Easy to use — Rust-Oleum assures lasting protection that resists rust-producing conditions.
- Apply by brush, dip or spray . . . in less time. Also available in small container sizes for economical distribution and field use.



Day and night—twenty-four hours a day—rust attacks railroad properties. Stop its deadly ravages by providing Rust-Oleum protection. Rust-Oleum coats metal with a tough, pliable moistureproof film that lasts years longer. *It's the proved answer to many rust problems.*

Rust-Oleum can be applied effectively and economically on all metal surfaces now in service—even where rust has already started. Merely wire-brush to remove scale and loose rust. Rust-Oleum merges the remaining rust into a rust-resisting, durable coating that defies time and the elements. Save time and labor. Avoid frequent and costly replacements. Protect your properties with Rust-Oleum. Specify Rust-Oleum on new equipment, for re-building jobs . . . and for maintenance.

*Get the facts now!* Write for catalog containing complete information and recommended applications. Tell us your specific rust problems and we will gladly send you definite suggestions for Rust-Oleum applications.

#### **RUST-OLEUM Corporation**

2415 Oakton Street

Evanston, Illinois

conclusive evidence that this damage is caused by heavy wheel loads. . . . The damage occurs only on pavements subjected to frequent heavy wheel loads and particularly overloads. . . . In some instances damage occurred under frequent passage of axle loads below the 18,000-pound limit. Particular emphasis must be given this fact. Once the pavement is broken and distorted by even one excessive overload, all heavy truck traffic, including wheel loads within the legal limit, is a destructive force.

"In some quarters it has been suggested that there be a gradual raising of axle load limits over a period of years. No policy would be more wasteful of public funds. . . . The claim of heavy truck operators that savings in operating cost are reflected in widespread public benefits holds true only to the extent that truck operations do not destroy capital investment in the highways and increase maintenance costs."

Mr. MacDonald also called attention to the reduction in capacity that occurs, particularly on roads 20 ft. or less in width, when trucks constitute an "appreciable percentage" of total traffic. "If 20 per cent of the total traffic is made up of trucks," he said, "the capacity of a road in rolling terrain is reduced by more than one-third of its passenger-car capacity. . . . A very, much greater number of road users will be benefitted by widening to two 12-ft. lanes with safe shoulders than by an equal expenditure of road funds to carry a relatively few heavier loads."

He estimated total 1949 maintenance costs of state, county, city and local roads at \$1,103 million—equal to 72 cents for each dollar to be spent on construction. "Even such a comparison," he added, "does not reveal the cost of keeping the present road system in operation, because a large percentage of the construction expenditure of \$1,531 million goes for reconstruction of roads depreciated beyond possibility of maintenance."

#### **Feature I. C. on Radio Program**

The Illinois Central has been selected as the subject of the first in a series of 30-min. radio programs entitled "Visiting Illinois Industries." The program is to be presented over the University of Illinois' station WILL (580 on the dial) at 10:30 a.m. on March 6, with a re-broadcast at 2 p.m. on March 8.

The program will consist of five sequences, including trips to the roundhouse at Champaign, Ill., to the dispatcher's office in that city and to the freight classification yards at Markham, Ill., and a ride in the cab of a Diesel-electric locomotive on the "Panama Limited" from Champaign to Chicago. The latter portion of the program will be devoted to an interview with Wayne A. Johnston, president of the I. C. and a graduate of the University of Illinois.



# HOLLOW *flexible* STAYBOLTS



Get Most Out of Your Power  
at Lowest Cost

Maximum Economy

Low Maintenance

Greater Safety

High Availability

Faster Inspection

High Mileage



**FLANNERY BOLT COMPANY**  
BRIDGEVILLE ★ PENNSYLVANIA

## Publications

### PAMPHLETS

*Bridge-Builders to Understanding.* 20 pages. Published by the American Railway Magazine Editors' Association. Copies available from Clifford G. Massoth, Illinois Central Magazine, 135 E. 11th place, Chicago 5, Ill.

This little booklet contains nine of the papers presented by members of the American Railway Magazine Editors' Association at its 1947 "Convention on Wheels" to San Francisco. The papers were the principal ingredient of the convention's three-day instructional section entitled "Symposium of Magazine Methods." They cover such topics as How the Organization Got Its Start; How to Start a Magazine; The Auxiliary Staff; The Art of Simple Writing; Photographs Will Dramatize Your Stories; Are Women Railroaders Good News Copy?; Effective Makeup and How to Achieve It; Two for the Price of One (publicity methods); and Determining Reader Reaction.

*Bulletin No. 74 of the Railway & Locomotive Historical Society.* 75 pages, illustrations. Published by the Railway & Locomotive Historical Society, Baker Library, Harvard Business School, Boston, Mass. Price, to members, \$1; to non-members, \$2.

Under the title "Rails Among Peaks;

Three Little Lines," Josie Moore Crum writes of three old Colorado railroads. The three railroads are the Silverton, the Silverton, Gladstone & Northerly and the Silverton Northern. The article contains a map of the Silverton Colorado area and a number of interesting photographs. Other articles cover the early history of the Chicago, Burlington & Quincy Railroad in Illinois (Part I—Aurora Branch Railroad Company); the locomotives of the South Park Railroad; the locomotives of the Adirondack Railway Company; and a brief biography of Howard Stillman, a former Southern Pacific employee, who designed, among other things, the Southern Pacific cab-in-front locomotive.

*Railway Transportation in Japan.* by General Headquarters, Supreme Commander for the Allied Powers, Civil Information and Education Section, Analysis and Research Division. 3 pages. Issued by the Office of International Trade, United States Department of Commerce. Available from the Government Printing Office, Washington 25, D. C. Price 5 cents.

"This report constitutes an analysis of comment and information reaching the Japanese people through the medium of Japanese language magazines. It contains several direct quotations in order to show what is being presented to the Japanese reading public. These

quotations are the opinions and views of the authors and publishers concerned, and no means are available to check their accuracy." With this introduction, General Headquarters discusses rail transportation costs and revenues, rail haulage capacity, lowered operating efficiency, railway workers, railroad electrification and the private railway lines.

*The Swiss Federal Railways Today.* 46 pages, illustrations, drawings. Published by the Swiss Federal Railways, Berne, Switzerland. Available in this country from the Swiss National Tourist Office, 475 Fifth ave., New York, N. Y. Price 20 cents.

Sensing the need for something in the nature of a popular progress report, or small railway guide for the man in the street, which, in simple language and with the aid of illustrations and drawings, would provide an insight into the manifold technical mysteries of a railway, the Swiss Federal Railways has produced this little booklet. It covers passenger and freight traffic, inventory of rolling stock, safety, capacity and maintenance of cars and locomotives, historical comparisons, subsidiary services, and employees. In addition to the illustrations, there are a number of clever little drawings which add interest to the publication.

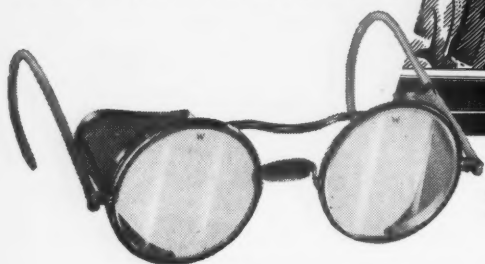
*Richmond, Fredericksburg & Potomac Railroad in the Second World War.* by John B. Mordecai. 47 pages, illustrations. Published by the Richmond, Fredericksburg & Potomac, Richmond, Va.

Mr. Mordecai reviews briefly events affecting the railroads which took place prior to the declaration of war, such as the opening of military camps, handling of troop movements, etc. He then gives a year-by-year account, from 1940 through 1947, of R.F.&P. operations. He includes statistics on freight and passenger traffic, earnings, and financing, and reviews the improvement programs undertaken. Following the account of operations is an honor roll of R.F.&P. employees who gave their lives in World War II, comparative statistics for the years 1940-1947 and reproductions of letters and certificates received in recognition of wartime service rendered.

*Automobile Facts and Figures, 1948.* 80 pages. Published by the Automobile Manufacturers Association, New Center Building, Detroit 2, Mich. Free.

Highlighting the 28th edition of this statistical yearbook is the statement that 1948 is the year which will see the production of the one hundred millionth motor vehicle. It contains the usual statistical data on truck, bus, and replacement parts production, employment and payrolls, dollar value of exports, vehicle mileage driven, registrations of cars, trucks and buses, and wholesale value of the industry's products.

## Eye Protection Can Feel Good and Look Good



Style BS Metal Frame with saddle bridge and side shields.

These safety spectacles with either metal or plastic frames feel good because they fit any type of face with that "made-to-order" look. Comfortable fit is assured by their light weight and the variety of bridge widths and lens sizes available. They are furnished with or without sideshields, and fitted with WILLSON Super-Tough\*, flat or curved lenses for ample protection on many heavy-duty operations.



Style A Metal Frame with rocker nose pads.



Style WP and WPS Plastic Frames with and without sideshields.

For complete information on these products and their application, as well as many more eye and respiratory protective devices, get in touch with your nearest WILLSON distributor or write us direct.

\*T. M. Reg. U. S. Pat. Off.

**WILLSON**

WILLSON PRODUCTS, INC., 241 WASHINGTON ST., READING, PA.